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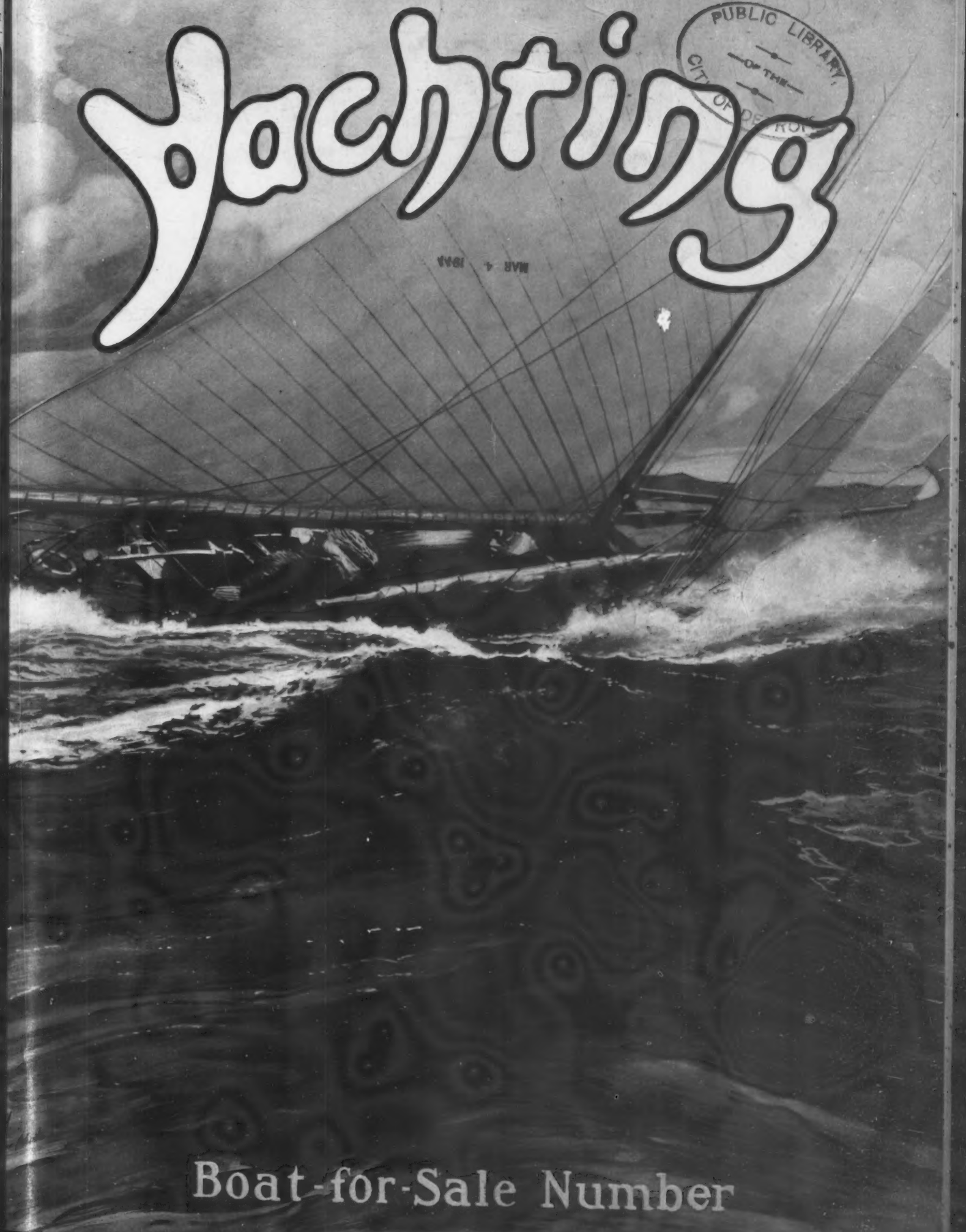

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RELIABILITY
PERFECTION
ULTIMATE ECONOMY

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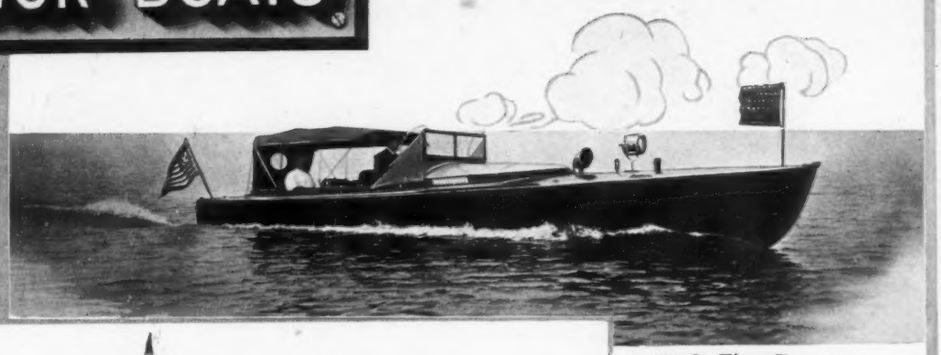

35 ft. Elco Express. "Will serve you on the water as the automobile does on Land." Speed 24 miles guaranteed

40 ft. Elco Cruiser. Sleeps Seven. 20 horse power Standard Gasoline Engine. Designed for Ocean Cruising

54 ft. Elco de Luxe. Undoubtedly the most luxurious of motor boats. Air-starting Gasoline Engine Speed 15 miles.

The Superiority of these boats can easily be judged by a visit to the Motor Boat Show, Feb. 21st to March 6th at the Madison Square Garden

Chicago Show Room:
1205 Michigan Avenue

Address Elco *193 Avenue A. Bayonne, N.J.*

In the Captain's Cabin

WELL, the winter is almost over, and you fellows that have been toasting your shins around the club-house stove will soon be getting into sweaters and ripping the coverings and pent houses off your "crates" and getting to work. Not but that we will still have some cold weather and snow and ice; but the sun is getting to shine on both sides of the fence and another thirty days will see the boats beginning to slide overboard, while the noisy reports of the exhaust will be awakening the echoes along the water front. But before you start in, all hands had better lay aft while we serve out a good stiff horn of grog before tackling the strenuous job.

We are going to take a new departure with our next number, the April issue, and instead of having a Fitting-Out Number, in which we poor "scribes" try to tell you fellows how to mix paint, paint your boat, putty the seams and make the decks tight (when, as a matter of fact, you all buy ready-mixed paint and have done the other work so often that you don't need to be told how), we are going to cut out this fitting-out business and give you something of more value to you, if you only take it to heart.

At present it is nothing short of scandalous the way a lot of you people go to sea with an equipment that is entirely inadequate for the work you expect to do. A lot of you have first-class boats, and yet the equipment that you often put aboard consists of a lot of junk not worth its weight as ballast, starting from an engine equipment that doesn't at all suit the boat down to running lights that won't burn in anything over an eight-knot breeze. Some of you have first-class outfits, but others jeopardize the reputation of a good boat by an inadequate equipment. The safety of a vessel often depends as much on her equipment as on the boat herself, and it is only by the grace of God that some of you people have come through the weather that you have.

So this April issue of ours will be called the *Equipment Number,* in which we will tell what constitutes a first-class equipment in every department, and one not only making for safety at sea, but for comfort as well. The following are some of the articles that will appear in this issue:

The Proper Type of Engine for Your Boat;

The Proper Tank Equipment to Insure Safety and Seaworthiness in a Boat;

The Proper Navigating Equipment, Including the Requirements of the U. S. Steamboat Inspection Service;

The Proper Mooring and Ground Tackle Equipment;

The Best Kind of Tender or Dinghy Equipment for Your Yacht;

The Proper Tool Equipment for Your Engine.

These are only a few of the articles. In addition, there will be stories of general interest and other practical articles. It will be the best number we have ever launched.

In this March issue we begin a series of articles on "Navigation for the Amateur," being talks on the simpler methods of finding position at sea by observation of the sun's altitude. This is not designed as a scientific treatise on the subject, but is a plain, simple talk by a sea captain in active service in easily understood language. Most of you boys have now become proficient enough to take a boat anywhere in pilot waters with perfect confidence, and can keep a dead reckoning course as well as most professional sailors. Knowing this much, it is only a short step to mastering the simpler formulas of navigation by observation, enabling you to go off shore with confidence not only in your boat, but in your ability to find your way.

This series will not go into the theory of nautical astronomy any more than is necessary to let you know why you do certain things; for, as a matter of fact, with the tables that have been compiled and with the nautical almanacs all the theoretical part of the work has been done for us, and we need only know how to apply the work already done. It is expected that, after taking up this series of articles, many will become interested enough in the subject to want to pursue it further, in which event there are already plenty of opportunities at hand.

We want to make this packet a practical help to you, and are trying hard to do so; and we think it is time for all of you who have not already done so to step aft and set your "fist" on the ship's articles, so as to help us work her through the coming voyage. It does not take very much of an effort to send $2.00 in to the purser, with a letter giving your name and address attached. We will do the rest.

One thing more. In a recent agitation by the postal authorities against the magazines they threatened to put most of us out of business by increasing the rate of second class matter on our advertising sections. We hope that this bill does not become a law, for we think it is discriminating and unjust to make any one class of matter pay the deficit for the entire Post Office—and we understand that the magazines constitute only about one-fifth of the total second class matter. There have been printed in various papers estimates showing that the subscription receipts of all the magazines do not pay 50 per cent. of the cost of producing that magazine, the difference being made up by the receipts of the advertising section. We do not mean to imply that this law, if passed, will put us out of business; but it is the advertisers that make magazines, and especially these boating magazines, possible, and we would again ask you, in buying your stuff for the summer's campaign, to favor the advertisers of YACHTING wherever possible, and not to hesitate to tell a man that you are a reader of YACHTING when you do so.

This raising the rates by the Post Office does not seem like a square deal for the magazines, and something ought to be done to prevent their jamming the bill through without a proper hearing. It is true that there is a deficit in the Post Office to be overcome, but there should be a broad and comprehensive inquiry into the matter to see if a judicious saving of expense would not wipe out the deficit. It would seem that contracts with the railroads for carrying mail might be a fair subject for discussion, inasmuch as they are paying, in many instances, the same rates as were in force thirty to forty years ago; while it is possible that a parcels post or other means of creating business, whereby the rural free delivery carriers could be sent out with a man-sized load, might go a long ways towards reducing the annual shortage. Most magazines have enough to carry as it is without making them take aboard any more ballast.

At various times we have printed a list of negatives of the famous yachts of the last twenty years taken by C. E. Bolles. This list is very comprehensive, embracing not only the famous boats, but practically all the sail and steam yachts that have been built between 1890 and 1905. If any of you boys want to get hold of a picture of a boat that you have once owned, look over this list and see if you do not find her listed there. These are fine photographs, full of life and snap, and will be sure to awaken the ocean "wanderlust" in your blood during the winter months.

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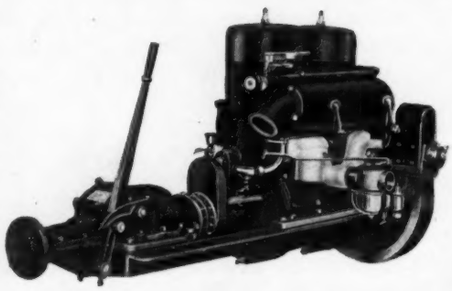
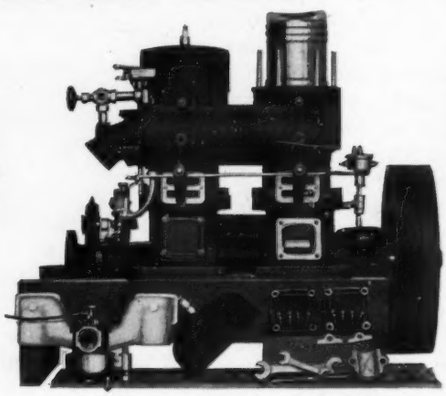
GRAYLING II
22 MILES PER HOUR

For Large Cruisers, Pleasure Boats, Work Boats, Speed Boats and Canoes





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We believe our Model "T" to be the highest type marine motor built.

We are prepared to furnish power plants up to 108 horse-power in our Model "T" line for either kerosene or gasoline fuel.

Made in one, two and three cylinder sizes—7 horse power and upwards. Ask for figures on 36, 72 and 108 h. p. plants.

Perfect compression—starts on spark.

Three engines in one. Combination two and three port. Can be operated as a two port engine or a three port engine, or a combination of the two for high speed racing conditions.

No water pipes exposed.

Lubricates through gasoline.

Special Copper Gaskets most expensive and best Gaskets made.

Accessibility of the Model "T"

It took 14 minutes for an inexperienced man to disassemble the motor as you see it—the first time—it took less time to put it together again. He said he could do it a second time in 10 minutes.

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That's only one of the features of a Gray Model "T."

Made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of two-cycle motors, by a firm whose guarantee means something.

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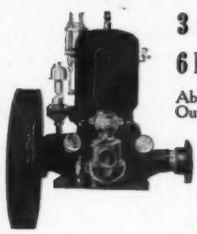
Big Stock of Motors in New York, Boston, Chicago, Milwaukee, Baltimore, New Orleans, Seattle, San Francisco, Philadelphia, Montreal, Cincinnati and Los Angeles.

The same workmanship — The same quality of material—The same STRONG guarantee as our $560 motor.



3 h. p. Guaranteed to develop 4 h. p. **$60**

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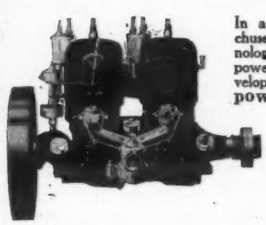
Above prices are for Complete Outfit.

The Big Plant—the splendid guarantee and equipment—the broad experience behind the Gray Motor insure you a satisfactory motor, prompt business-like treatment and real motor satisfaction.



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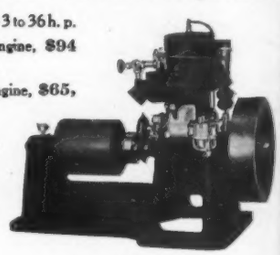
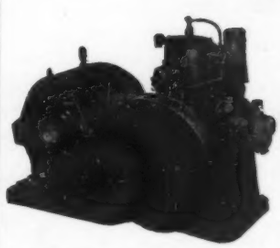
24 h. p. Irrigation Pumping Engine, $346 —36 h. p. for $560.





Electric Light Unit

Motor and Generator on same base. Complete electric light outfit for your boat or other purposes.

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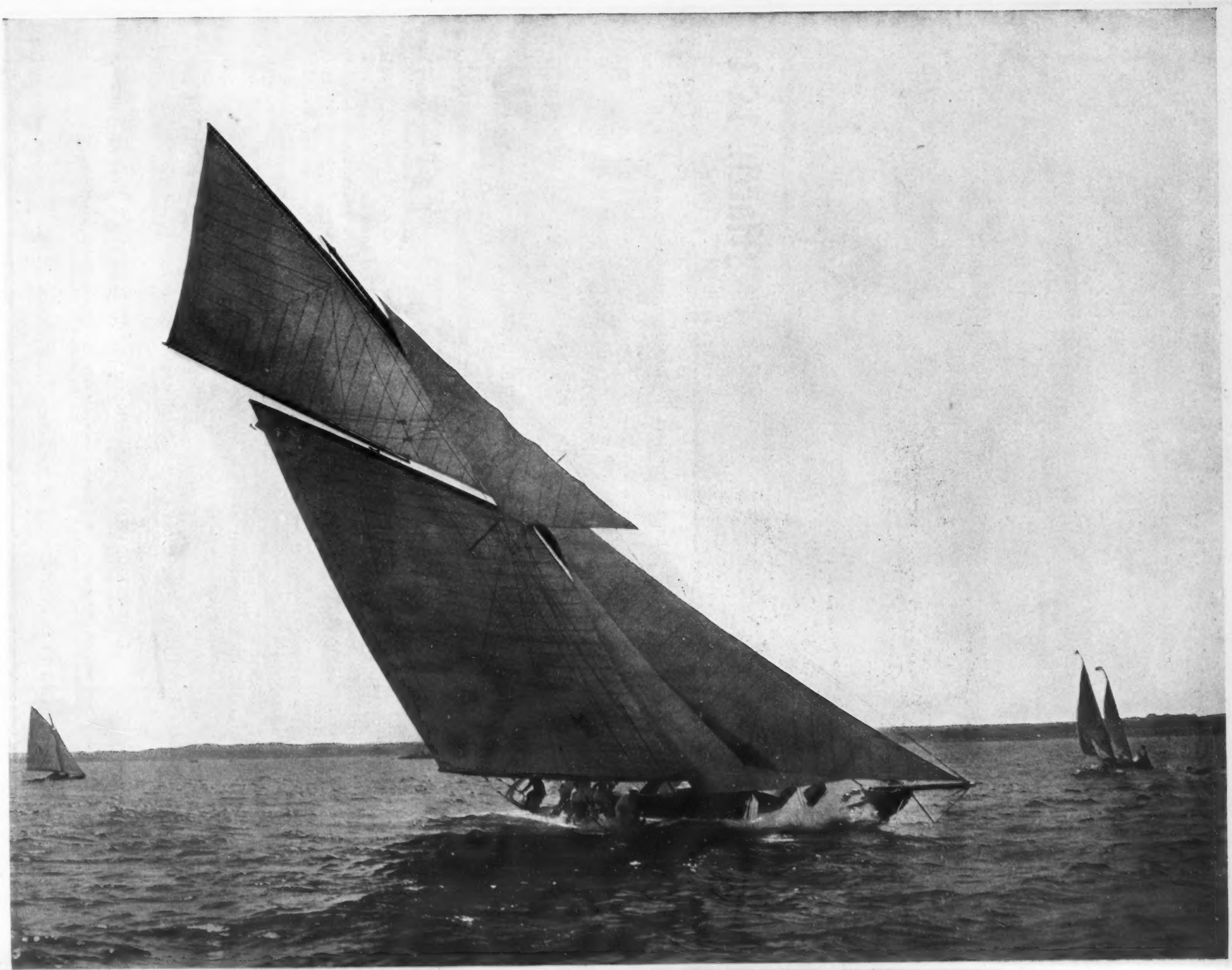

Photograph by E. A. Walter

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YACHTING

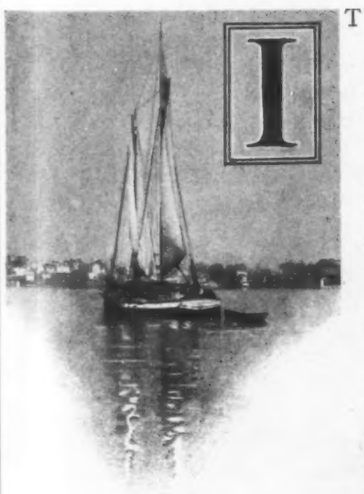
VOLUME IX NUMBER 3 March, 1911 25 Cents a Copy $2.00 a Year

YACHT ANCHORAGE, SAN FRANCISCO BAY.

A Winter Cruise in California

By CHARLES ROYCE BARNEY

Photographs by the Author



"NOT FAR AWAY LAY A BLACK-HULLED SCHOONER OF ANCIENT TYPE AND QUAINT RIG."

IT was a mushy day as I took the boat and then the train to the point where my yacht lay at her winter anchorage off Bay Farm Island, and it was still mushy, with the rain coming down smartly, when, after changing my street clothes for yellow oilskins, rubber boots and a sou'wester, I commenced to attend to the preliminaries of getting under way.

The Bull Dog, my small tender, with a five and a half horsepower gasolene engine, barked cheerfully when I turned her over, after having cleared the boat of rain-water and mopped up the muck of oil from the floor boards. That was an encouraging sign, as the light airs indicated the probability of our having to use her later, and it was not long before tanks were filled, gaskets loosened, and the crew began to arrive. They were not my regular crew, for they had disbanded at the season's close to go their several ways during the winter months, and of these that I was now shipping but two had ever sailed before and but one with me. The present aggregation had agreed to ship for better or worse during the space of a week, and I assumed the responsibility of getting them back safely, provided they stayed aboard—no very serious contract, considering the fact that the reaches of the Sacramento and San Joaquin Rivers were our destination, and that the Iola had carried me a thousand miles along the California coast during the summer months. Two important factors were present: I had a good mate and a good cook. The former had sailed in a fishing schooner as far as the Arctic. I had seen the latter pull pastry out of a reflecting oven in the high Sierras which, despite the pine smoke, would have put a New York chef to shame; and when he used his gentle arts of persuasion on my four-holed "Shipmate," there seemed no limit to his ability. That any crew could or would desert in the presence of such a combination seemed unbelievable.

It was 4:30 p. m. when we cast off our mooring line and slipped down with the tide. We needed its fullness to carry us clear of the bar, and that we were a trifle late caused us some moments of suspense, for we grated and hung for a minute or so; but, a fresher shift of wind coming, her keel cleared as she heeled to it, and presently our soundings showed that we were over. The wind was southeast and fairly steady, and we passed to the eastward of Goat Island and, hauling our course when clear of

LETTING HER HAVE IT. IRONDEQUOIT HAULING CLOSER.
Photograph by F. A. Walter

A SWEEP OF THE SAN JOAQUIN.

Goat Island shoal, made an anchorage that night in Belvedere Cove.

Here, the next morning, we took on more water and our supplies for the cruise, lightering them out from the general merchandise store on the beach in a large skiff, the launch towing. When it was all aboard it looked doubtful if there would be any room for the crew, but it was finally stowed; not without some excitement, however, as, upon unpacking a bunch of bananas, a large tarantula rolled out and rubbed his sleepy eyes, while the crew stampeded. Then some daring spirit—I think it was the mate—killed it, and we all breathed freely again. The cook suggested cooking him, and, from past experience, I had no doubt that he could make even a tarantula palatable; but the crew's prejudices were pronounced and the home port too close at hand to take an arbitrary stand, so we gave him a sailor's burial in a banana skin.

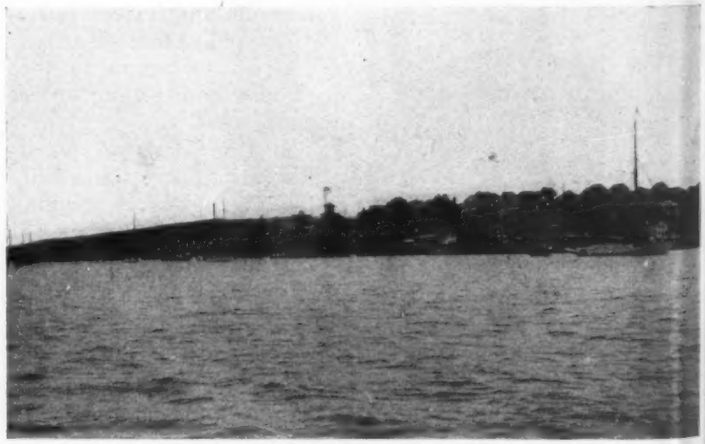
FISHING LAUNCH WITH A TOW ON THE SACRAMENTO.

Then, weighing anchor, we got under way before a brisk southwest breeze, the flood tide with us, and stood up Raccoon Straits with slackened sheets. In the upper bay the wind hauled into the northwest, making it a close reach, and at 12:55 p. m. the Brothers Light and San Pablo Point were both abeam. San Pablo Bay, which, during the summer trade winds, was noted for the dirty weather encountered there, now presented an entirely different appearance. The light northwest breeze laid the water before it in overlapping folds, flat and soft, without a suggestion of roughness. In spite of its apparent strength, the scow schooners and other craft whose sails were spread made little headway, and "square-head" captains, little given to sentiment, gave way to the spell and lost their impatience at the contrary eddies as they gazed, fingering the spokes of their wheels, on the wealth of hazy blues and greens in the picture spread before them. It was a day and a scene more fitted to the pages of romance than to stern realities. At anchor not far away lay a black-hulled schooner of ancient type and quaint rig, her masts raking aft. So at variance was her appearance with her modern surroundings that one would scarcely have been surprised to hear the hoarse chorus issue from her hold of "Yo ho, and a bottle of rum!" or to catch the rattle of blocks and falls and see her boats manned with a boarding party garbed in the dress of Pirate Morgan.

We traversed the often tempestuous but now quiet waters of San Pablo without incident, full of memories of past cruises—cruises when the summer winds had beaten the shallow yellow waters into a dirty froth, cruises full of hard beating to windward under shortened sail.

Selby was abeam at 3:55 p. m., the bay narrowing to the Straits of Carquinez, which connect San Pablo and Suisun Bays. We hold the middle of the Straits to avoid the lee of the hills and tall buildings at Crocket and Port Costa. On the port hand we open up the mouth of Napa River and catch glimpses of the town of Vallejo snuggled down amongst the little knolls some two miles distant, with Mare Island and the Navy Yard, a favorite summer rendezvous for yachts, big and little. An addition to our party should be waiting for us at Port Costa, and presently we make him out signaling from the wharf, and, with the assistance of the launch, he is brought quickly aboard, bag and baggage, without our changing our course or touching a sheet. High in the air above our heads, in one long span from shore to shore, a distance of 4,000 feet, are the high-tension power wires of the Pacific Gas & Electric Company, carrying the "juice" that lights the bay cities and turns machine shop and factory wheels. Sixty thousand volts of electrical energy are transferred across that gap by each of the four wires. The monstrous turbines in the power houses in the heart of the Sierra Nevadas, fed by their pure icy streams, are grinding it out hourly, untiringly and unceasingly. The tower on the northern banks is 225 feet high, and from it, going almost daily, an electrician must take a daring trolley ride across, tending the wires, for they must not be allowed to become corroded by the weather. It is a ticklish job, and requires a steady head and careful hand and foot, the rider being swung in a contrivance much like a painter's cradle.

Presently we are abreast of Port Costa, with its long rows of wheat and sugar warehouses, a tramp steamer or two and a square-rigger lying alongside. Already the water is lapping the Plimpsoll mark on one of them, by which we know that she is



VALLEJO YACHT CLUB AND ANCHORAGE.

almost ready for sea. At the rate the slings are being relieved of their loads, she should drop down with the next tide, carrying her thousands of bushels for some one of the world's great markets.

As Benecia comes close abeam, the straits begin to widen to something like two miles. Embraced by a circle of dark hills to the southeast lies the town of Martinez, her feet in the tules at the river's edge. This point of our journey should be one of peculiar interest to the Californian who knows the history of his State. As San Francisco since the earliest days of our Statehood has guarded our outer gate, so Benecia stands sentinel at the portal of our vast river system of the interior of California. That intricate, vein-like system, whose interlacing streams cover not only the fertile plains of the valley floors, but also spin their thread-like tributaries until they tap the inexhaustible snow fields of the highest Sierras, alike bring their burden of waste and wealth past her doors.

Benecia was founded in 1847. Its name, literally translated, means "the blessed," and was changed from that of Francesca, the original appellation, so as not to confuse it with San Francisco. Both names were the Christian names of the wife of Governor Vallejo, an early Spanish Governor of California at the time of our conquest of Mexico. The town and its people during the younger days of the State, and particularly following the discovery of gold in California, played prominent parts in her early history.

AT ANCHOR AT RIO VISTA.

WASHING DOWN.

As the channel here carries from eight to ten fathoms of water, and darkness is not far off, it is time to be hunting an anchorage, so that, as we pass Army Point, we jibe over, and, taking the wind on the port side, work slowly up against a strong ebb tide and bear northward to where the bold outlines of the point merge into a level mass of tule that extends for miles to the north and westward. Here, some hundred feet from the tule line, the anchor finds a bottom of soft mud in a little over two fathoms, and not without some difficulty, the strong ebb tide holding us stern-on to the wind, the deck crew gets the large mainsail off and stowed. Meanwhile, savory smells come from the galley, from which, a half-hour later, the cook produces a roast with sweet potatoes and abundant side dishes, and we turn to with keen appetites, soon afterwards turning into our bunks, while the wind sings through the rigging outside and the riding light gleams, the one bright spot in that waste of water and tules.

The day following dawned sweet and clear, the wind having blown itself out by the early hours of the morning, but, little to my liking, had hauled into the southeast, and threatening-looking piles of clouds were rolled in dark masses about the summit of Mount Diablo, which reared its 3,800-odd feet on the Contra Costa shore, some 12 miles inland. Such light breezes as there were only slightly roughened the surface of the water, however, which, for the most part, was like glass, reflecting the early morning colors in the sky. I stuck my head out of the scuttle and watched the long V-shaped lines of wild ducks and geese leaving their feeding grounds. Amongst the wilderness of tules to the north and west the guns were booming like a cannonade, for the city sportsmen were collecting toll of the early morning flight on their preserves, and many a game strap would be heavy with its load of birds when the Sunday evening train reached the mole, carrying its scores of tired but satisfied hunters.

The Suisun marshes are famous as being the hunting grounds of well-to-do city dwellers. Thousands of acres of tule and reclaimed lands which border on Suisun Bay have been leased for shooting privileges. The water, especially during winter, is nearly fresh, as Suisun Bay is part of a delta formed at the junction of the Sacramento and San Joaquin rivers, and is the natural haunt of wild fowl, both home-bred as well as northern birds, which are driven south by the severity of the northern winters. The bay derives its name from that of a tribe of Indians who lived on its shores in early Spanish times. They are reported to have been wild and fierce in their disposition, and to have finally succumbed to the attack of a detachment of Spanish soldiers from the garrison at Mission Dolores, San Francisco.

By nine o'clock it was slack water where we lay, but the mid-channel buoy off Bulls Head Point still had an angle that indicated a strong ebb, so we waited for the tide to slacken and the wind to strengthen. At ten o'clock tide conditions seemed favorable, and, with very light airs, we got up the hook and stood for Point Edith. The progress was slow, and I could see that we were in for a wet day. The clouds were settling lower around old Diablo, and the barometer had dropped about four-hundredths, while the temperature had increased. In half an hour after we had started the mountain was no longer visible and the sky was fast becoming overcast. In an hour we felt the first spatter of the rain drops, and the crew lost no time getting into oil-skins. Meantime, the wind had gone completely, and, without steerageway, we drifted up with the tide. We hauled the launch alongside, and she was soon sputtering busily and kept us going through the water at about a 3-mile clip. But it was not good pleasure-sailing, and after passing the Middle Ground Shoals, after which the channel broadens, we kept going for another two miles, and, early in the afternoon, dropped anchor in about two fathoms of water just to the eastward of Stake Point. In a short time the launch was swabbed out and covered, the soggy sails were taken in and loosely stopped, and our wet clothing was steaming by the galley fire, while cards and reading closed the day's sport and the air below grew thicker with tobacco smoke,

PUNTING IN A TULE SPLITTER.

A HUNTING PRESERVE, SUISUN MARSHES.

our conversation being punctuated by the steady patter of the rain drops. What did we care? It was all in the game. Blow high, blow low, we were in a snug anchorage, with plenty of food and drink, and to one of us at least it brought back that inexpressible feeling of coziness of a winter day long past, when, under the shingles of the attic at home, backed up to the warm chimney, his pet cat purring contentedly and digging her nails into his knickerbockers, to the same pattering accompaniment he read, in an ecstasy of fear, Robinson Crusoe's discovery of the foot-prints in the sand.

Late in the night the drum of raindrops ceased, and, under the covers, I gradually became aware of an increasing coldness, as little nips of frosty air aroused me from time to time to wrap the blankets more closely about me. Early in the morning, while yet dark, I stepped from the cabin and promptly sat down, skating across a thin sheet of ice on the bridge deck, a similar coating being encountered on the boom when I laid my hand upon it. What I said is neither here nor there; but I concluded, as it was nearly six o'clock, that it was time for any sailor to be up, so went below, got on my clothes, and soon had a roaring fire in the galley.

A light northeasterly air was stirring, driving the thick veil of tule fog past us. Hairy spikes of frost were on sheet and halyards, while the sails were incased in ice. Deck, house and cockpit were slippery with it. By some persuasion, accompanied with threats of force, the crew were induced to get out of their comfortable bunks and get the boat under way; for as the tide was flooding and there was a good working breeze, I did not wish to lose any of the advantage of it. So we set a course of N. N. E. and commenced to beat across the channel. The mate, by way of making them forget the cold until breakfast time, was finding work for the crew. We had to forego swabbing decks, as the water froze on them. It was the coldest morning that I had ever experienced in California near sea level.

We had with us the Coast manager of a large Eastern house, who was grâdually awakening to the realization of what yachting really was, particularly in winter. Never having done any before, he pictured the spick and span cruiser, the guests, all neatly attired in light summer garments with a profusion of gold braid, lolling gracefully at the rail, smoking long cigars, or seated in reclining chairs, while a white-coated steward poured something into a glass that fizzed. He had brought with him a supply of light reading to last the trip, and, if the intentions of the mate held out, there was every likelihood of its lasting. In fact, he was already somewhat behind his schedule. This same mate was now overseeing, from the companion stairs, his efforts to wash down decks with sheet ice. "It's no use," he finally remarked. "Wring out the mop and wait till the sun gets through this fog." P—— placed his foot on the swab and twisted the handle. "What kind of a way is that to wring out a mop?" roared the mate. "Take your hands to it!" He did; and then retired to warm his benumbed fingers at the galley fire, while the mate went forward to have his laugh out unseen. When he could control his features again he found that the cook had set the would-be yachtsman to work peeling potatoes.

Presently, with the breaking of the fog, we found that we had worked well over toward the northern banks; so, changing our course, we ran along that shore and enjoyed the first rays of the welcome sun. To the southward Mount Diablo loomed big against a blue-black sky, his dark sides sparkling with a heavy coating of snow. It followed the deep creases of canyon and gulch, where it had drifted; but the ridges were bare of it, and the appearance was altogether very striking. At ten o'clock we passed into Sacramento River proper, holding close over to Van Sickle Island on the west, to avoid Tongue Shoal. The two rivers discharge their waters into a common channel at this point, the San Joaquin coming in from the south, the Sacramento from the north, and between their courses a large shoal—the "Tongue"—has formed, part of which is uncovered at low water. The Sacramento takes a quick bend at this point, so that, with the current and shifts of wind to contend with, it sometimes requires skillful manœuvring to clear the shallow water. If unwarned, the stranger generally manages to "pile up" there on his maiden trip; but the chagrin of waiting over a tide strikes into his soul with sufficient force, so that he does not, as a rule, repeat the blunder.

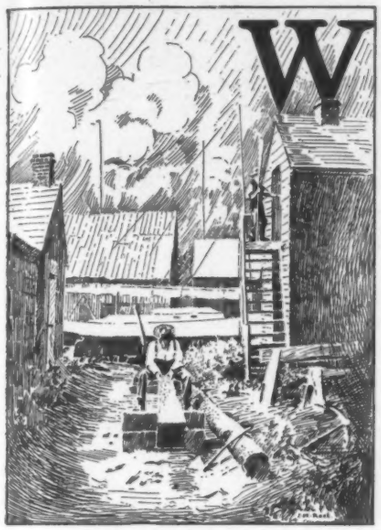
As we shift our course at right angles from north to east, we open up, for a minute, Montezuma Slough, whose twenty-odd miles of snakey meanderings through Suisun marshes would bring us back to our anchorage of the night before last by another route were we so inclined. We are not, however; so, leaving the little hamlet of Collinsville close abeam on the port hand, we head eastward up the river. The one general store and post office and cluster of two to three dozen humble cottages behind it gives no hint of the ambition of the original founders, who, some forty or fifty years ago, planned and outlined on this site what they hoped would be a mighty city. California was the land of gold in those days. Here was the junction of its two mighty rivers, the natural arteries through which would be pumped the richness of the commerce of its interior valleys. What more natural and more fitting than that this would be the spot where this wealth would concentrate before being distributed to the world? Whether the promoters thought this or not, they made the public think so, and much of the land thereabouts was sold in Eastern cities. Those who came to locate their property found it in the midst of a tule waste.

For three miles above Collinsville the tules hold both banks of the river, and then the willows and larger trees begin to make their appearance, adding much to the beauty of the vista ahead. We are sailing close-hauled now, and the tide is beginning to ebb, making progress slow. After passing Toland's Landing, if we are to make any progress at all, we must resort to the launch; and so the faithful Bull Dog is put alongside again, awakening the echoes from the banks with its sharp intonations. A mile further on there is a faint jar, and we "fetch up." We have held too close to the northern bank, and a bar thrown up on the inner side of the curve has stopped us. It is 3:40 p. m., and will be dark in an hour and a quarter, so we decide to put an anchor in deep water and stay there for the night. This is done, and, less than an hour later, the swell from a passing steamer lifts us clear. The sun is setting amidst a gorgeous accompaniment of cloud colors. The barometer has been rising steadily, and everything looks promising for good weather ahead. Even the cook persists in standing head and shoulders out of the scuttle to gaze entranced upon the colors of the sunset, until driven below to his duties.

(To be continued.)

How I Built a 35-Foot Power Cruiser for $700.

By WARREN H. MILLER



WITH my wife, I planned this boat, in answer to an urgent need for a cool place to spend the summer within commuting distance of New York. What is more, we only started talking about the boat in February; we had her afloat by May 15, and lived aboard her from that time until the the 6th of September last. By way of summer accommodations, she possessed a fine bathroom for'ard, a tiny galley in which breakfast and supper for two could be "shook up" with astonishing facility, a two-berth stateroom, and a large launch-cabin containing the engine under the central table and six large, *real* windows, that could be opened to the breeze, which made this cabin blowy, shady and glorious by day as well as cool by night. Two long lounging berths, or rather seats, went along each side of the launch-cabin, which would sleep two guests at a pinch, and were, in fact, the preferred positions on very hot nights, though the stateroom was seldom hot enough to make one want to change. For a cool, breezy little summer hotel I have seldom seen the equal of that boat, and, as we built her at home for less than $700, I think her story may be of help to others who are vexed with the summer problem, crazy with the heat, pestered with mosquitoes, or all three combined.

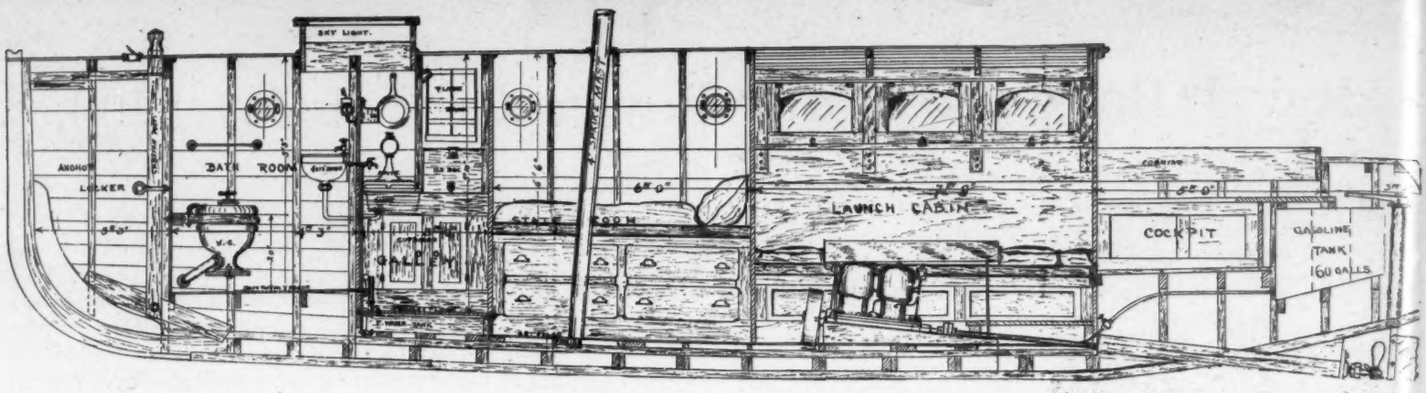
GO-SUM, A 35-FOOT CRUISER, WHICH COST ONLY $700 TO BUILD AND SOLVED THE PROBLEM OF THE SUMMER HOME.

To begin with the design. I saw nothing in the numerous knockdown frame catalogues that suited our purpose. Most of them would do well for week-end cruises or sleeping accommodations for a pair of youngsters with down-town-office jobs, but for old and settled married people like us civilized comforts were a necessity, if an all-summer stay was to be enjoyed. A few years' training in New York apartments had gotten us used to condensed comforts, so to speak, so it was no great change to the still more compact accommodations of a small cruiser, *provided* she was completely found. Nor did the rather tubby lines of the average power cruiser appeal to me. I wanted something not over 7 feet 6 inches beam on 33 feet L. W. L., so that a 10-horse engine would "snake" her along like a 13-inch shell when under way on a cruise.

I found a model like that among the knockdown frames, and not in the alleged "cruiser" class, either, but among the meek and lowly open launches. The original was a fast open launch, with a number of records already behind her, and measuring 48 inches deep at the bow, 38 inches amidships and 42 inches astern. I proceeded to do things to her picture in the catalogue. I added on a foot of height to the bow, carried the raised cabin eave line aft to a point where the eye dictated that the pencil should stop, and swept a taffrail curve down from the cabin eave-lines about where I judged the stateroom should end. I then finished the rest of it in three little peek-a-boo launch-cabin windows, put in three portholes along the extension trunk, added a signal mast and a couple of flags, and the creation was ready for the inspection of an admiring public.

Testing the drawing with an architect's rule, I found that one's naked eye is not such a bad amateur designer after all, particularly if it has been accustomed to look at "sassy" yachts and classy canvas racing goods. The dimensions came out: Launch cabin, 7 feet 8 inches; stateroom (second two portholes), 6 feet 6 inches; cockpit, 6 feet; stern deck, 3 feet, leaving about 12 feet for galley, bathroom and chain locker. We couldn't see that we needed over 3 feet of galley (and after events proved us right), but we *did* want plenty of room for the bathroom; so we gave it the remaining porthole and half the skylight and made it 4 feet 3 inches long, leaving 5 feet for the anchor locker and bow timbers. As to height, your eye said that the boat would look landlubbery to a degree if she had a fraction more than 2 feet from the eave of the extension trunk cabin down to the fender wale on the sheer strake, and that above this eave a crown of 6 inches could be put on the roof without said eye being offended. You want 6 feet of headroom, including the carlins (if you can get it), and the keel, keelson and frame cross-timbers usually get away with about 6 inches; so, allowing an inch for flooring, you must provide for 6 feet 6 inches from top of roof down to bottom of keel amidships. As the catalogue spoke of 38 inches amidships, it was quite evident that I should have to go out and steal more than 3 feet somewhere. The crown and extension trunk would give me 2 feet 6 inches of it, and, as the boat would inevitably draw at least 3 inches more than her load waterline as an open launch, I bethought me of the simple expedient of making her 6 inches deeper, giving 3 of them to draft and 3 to freeboard.

So I ordered the frame sent, with ribs, stem and stern posts left 6 inches long, for which the company charged me $3 extra. The entire frame cost $85.50, and the freight on it from Michigan to New York was $7.15. Soon after placing the order a



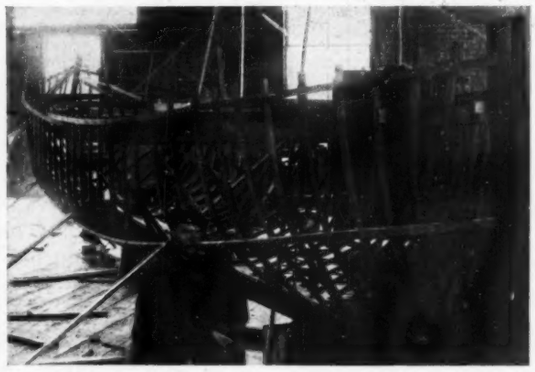
LONGITUDINAL SECTION OF GO-SUM, SHOWING INTERIOR ARRANGEMENT.

roll of plank patterns and a book of directions arrived from the frame company, and I spent over a week of evenings in cutting out the patterns. I might digress here and explain that this boat was financed entirely on hot air, as we figured that, by paying for everything as we went along, we would own the thing piecemeal before we knew it. And so it turned out; for, while we still owed money on the engine and a few lumber bills, she was practically all paid for when she was launched.

About this time I ran into a beautiful lot of cypress, for which the owner was willing to trade cash to the extent of 7 cents a foot. It took forty dollars' worth of it to plank the boat and raised extension cabin. I believe you can get good cypress for much less than this; but, as there wasn't a single knot in the entire shipment, it got my goat and copped the above palatial price. Be that as it may, I now ran into a thirty-hour job, working evenings, in transferring the plank patterns to the planks. I had them all sawed out to shape on a band-saw later in just one and one-half hours, the charge for the job being $1.15. Moral: Don't *think* of sawing out these planks by hand yourself. No use trying to compete with a band-saw manned by two men and a small boy. It only makes you ridiculous, and makes your spare-time value look cheap.

The frame arrived in three crates, and I set it up, with the help of two enthusiastic friends, in just one Sunday's work. The illustration shows how it looked at the end of the day's work. The frame company certainly made a beautiful job of the work. Every rib was beveled so that a ribband would lie flat and fair anywhere along the body; the heavy framing around the skeg, shaft-log, stem and stern deadwoods, etc., had all been attended to, so that all you had to do was to bolt the big ship-splice together amidships in both keel and keelson, and bolt the stem timber to the keel below and the keelson above. We did all this work with plain ⅜-inch galvanized iron rodding, peined over washers at either end of the bolt and burred down until the washers sank deep into the oak. My next move was to hire two ship carpenters to help me with the planks.

I don't think that an amateur can get on the garboard strake without making more or less of a botch of it—certainly not single-handed. But if one has been careful about setting up the main timbers so as to get them on exactly true, and sees to it that the rabbet meets the keel fore and aft in a fair curve, and is, furthermore, willing to cut and try patiently with the garboard strake before nailing anything fast, there is no reason why as successful a job cannot be done. Most amateurs are in too much of a hurry. We were a whole day getting on the four planks of the port and starboard garboard strakes, and chalked it up as a good day's work when the thing lay a good, fair caulking fit into the rabbets and keel.

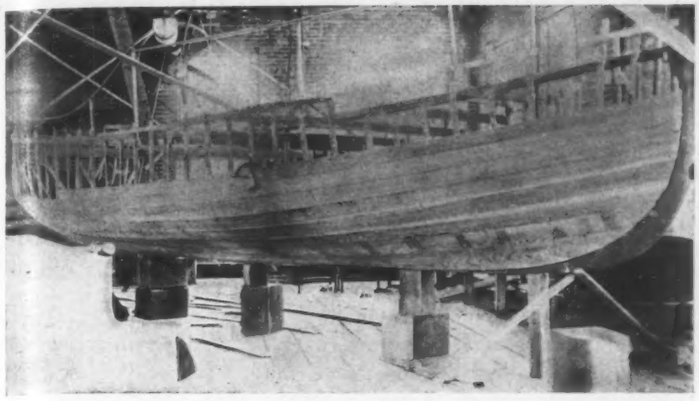


THE "KNOCKDOWN" FRAME SET UP. THE RESULT OF ONLY ONE DAY'S WORK.

The rest of the plank went on easier—about three whole strakes on each side per day. We left off about the eleventh strake and went up to the sheer strake, as I had ordered the ribs 6 inches long, and would, therefore, have to fit at least one of the intervening strakes. As you are sure to gain or lose in putting on the planks, it is always a good plan to do the sheer strake before planking all the way up, so that any discrepancies can be taken up between the two or three strakes left below the sheer. In planking, you need several C-clamps to hold the planks down on the ribs and at least one chain clamp to pull down snug upon the plank already nailed. You also need a breast drill, with machine twist drills, to drill through the cypress plank and the oak rib, three holes to each plank at each rib, into which are driven copper rivets or galvanized cut nails, whichever are preferred. These have then to be set and clinched inside, and about 2,000 of them will be needed in a boat of this size. It means quite a bunch of work, and if you can't collect a few friends, handy with tools, to pitch in and help, you had better hire a couple of carpenters.

Another long-winded job is caulking the seams and puttying them with white-lead paste. There are about a thousand feet of seams, and it will take five bundles of caulking cotton and a pail of white lead; also, about three days' work for one man. There is nothing very hard about caulking. Take care to bevel your planks so as to leave them open nearly a thirty-second of an inch on the skin side of the ship, give them a light coat of paint to make the cotton stick, and then feed it out of the roll, tacking it to the seam in little inch loops with the caulking iron until you have about a yard of it up. Then go over the seam and drive in the cotton about ¼ inch below the skin of the ship. The point is to keep the cotton coming even and not get it bunchy and hard in spots. When the planks swell the inner edges will crush, and she will bite the cotton hard all along the seam. After caulking, run over the whole skin of the ship with a short jack-plane, getting a smooth, fair surface all over, and being careful not to leave any tool-marks, as they will show up later through any amount of paint and sandpapering.

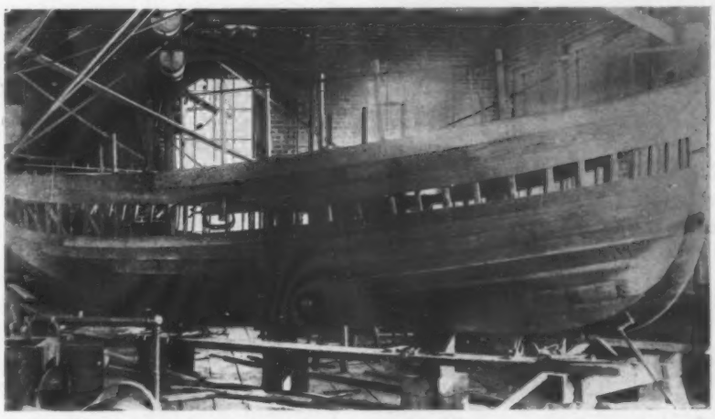
All the work on the sheer strake, which is of oak, must be countersunk and the holes plugged later with the little wooden plugs which you can buy at any shipchandler's. Inside of the ribs opposite the sheer strake runs the clamp, which is also of oak, with bolts passing clear through sheer strake, rib and clamp, being secured with a nut on the inside. Above the sheer strake is smooth sailing again, as two planks will generally do for the sides of the extension trunk cabin. We spliced on



PUTTING ON THE PLANK. C-CLAMPS ARE A NECESSITY FOR THIS JOB.

oak extensions to every other rib, to make a frame for the cabin sides, and mortised the tops of them to receive the tenons of the roof carlins.

The next step was to get on the cockpit coaming, and this I ran clear around to the stateroom, using it for the sill of the launch-cabin windows. The deck was a mere footboard, 7 inches wide, and I made the taffrail broad and flat, as, in getting up on deck for'ard, it would be much easier to run on it than on the narrow deck. We first got out the coaming blocks, and nailed them down on to the clamps; then we fitted the oak deck-planks along each side, and, finally, bent the coaming planks, screwing them to the ends of the coaming blocks with two No. 12 2-inch brass screws at each block. As all this work was countersunk and plugged, it took time.

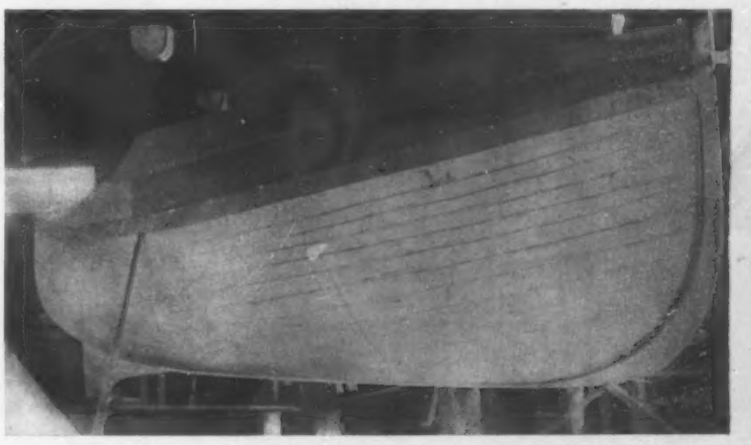


PUTTING ON THE PLANK. THE SHEER STRAKE WAS PUT ON BEFORE THE BOAT WAS ENTIRELY PLANKED, SO AS TO "TAKE UP" ANY DISCREPANCIES IN THE FIT OF THE PLANKING

Then we set up the launch-cabin window mullions, and, as the coaming was nowhere perpendicular, each one had to be fitted so as to bring it true and plumb. Roof carlins joined each mullion; a sill was notched and bent to fit along the top of the coaming, and a broad stop put on each mullion outside, and the launch-cabin was ready for windows. All this work was in red oak, which stains with cherry japalac to give a very passable imitation of mahogany. After this I let the two carpenters go, paying them $50 each for about eleven days' time, and felt that the money was well spent. There is an immense amount of detail work about a boat, and it uses up time to an unholy extent. If you elect to do it all yourself, well and good; any handy man with tools can make a job of it. But—better start your boat in November, if you want to get her over by June. I gained about two months on the job by hiring those men, and they worked with a finish and neatness that I couldn't hope to equal.

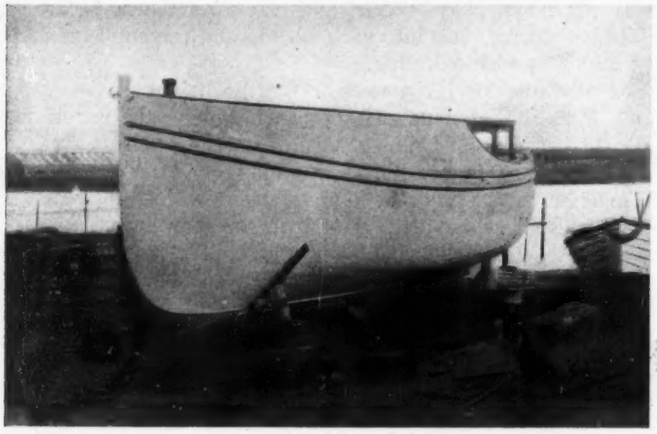
Left to myself, I put in a Sunday nailing on the roof ceiling, which was of ½-inch yellow pine tongue-and-groove. It took about 100 board-feet, and the following evening the wife cut out and sewed the roof canvas, which was 10-ounce duck. I tacked it all around the edges of the cabin eaves, stretching it taut and securing with 4-ounce copper tacks. To get these latter to start nicely without trying on their favorite trick of turning over in the canvas, provide yourself with a small, sharp jab-awl and give the canvas a dig before inserting the tack point. A trim of heavy oak 1⅛-inch half-round beading was next put on all around the cabin eaves, joining the taffrail at the point where it slopes up to the eave line just aft of the stateroom. The brads for this work must be galvanized, and should be sunk with a nail set, filled with wood filler and varnished immediately after putting on, or the weather will be sure to make rust stains on the oak. These can be, in part, removed with oxalic acid and sandpaper, but will never wholly disappear. To put on the taffrail took considerable time and patience. It not only had to be sprung down to fit the sweep of the side of the ship up to the cabin eave, but had also to be curved edgewise to follow the lines of the boat. This latter was not easy, as the taffrail was 2½ inches across; but it finally came into place with strong clamps, and was secured by two brass screws sunk into each rib top and the sunk head covered with a ⅜-inch oak plug.

The first interior job was to locate the height of the cockpit floor. This should come at least 3 inches above the waterline to make the cockpit self-bailing, and this latter is well worth while, since otherwise you are in for a bailing job after every storm, and may get the carpets soaked and flooring warped in some nor'-easter, when it rains steadily for three or four days. Again, if you do not get the cockpit floor too high, you can dispense with the hatch over the cabin companion, always a source of weakness in the roof, and, withal, expensive. In the Go-Sum I located the cockpit timbers, so as to bring the floor 3 inches above the waterline, and laid down a floor of narrow strips of ⅞-in. cypress sawed up out of the waste from the boat planks. The ends of this floor rested on the main oak transom sill, which was made by spiking together three oak timbers sawed out of the waste of the sheer strakes, coaming and deck. The innermost and highest of these formed a stop to the door, and also gave something to which the after-cabin panels could be nailed. The middle piece was the sill proper, and the outer piece formed the ledge on which to nail the ends of the cockpit flooring. It was so placed as to bring the sill 2 inches above the cockpit floor, not only to keep out water, but also to allow the doors to swing free above the cockpit floor. In getting out the panels for after-cabin, stateroom and galley partitions, I made up a design, as shown, and



THE HULL PLANKED AND SIDES OF RAISED DECK CARRIED UP.

sent it to a sash-and-door mill for a price in red oak. They returned a quotation of $32 for the set, but it seemed to be exorbitant (it really was very reasonable), so I ordered the lumber and set to work to make them myself. It was a long, exhausting job, and many of the fits were not as neat as I should have liked. All the frames were doweled together and the panels nailed to the back with brads. This brought two sunk panels looking into the stateroom and two raised panels with chamfered edges looking into the launch-cabin. They did not look at all badly finished in cherry japalac; but the mill job would have been all insert panels and strong, neat work, mortised and tenoned



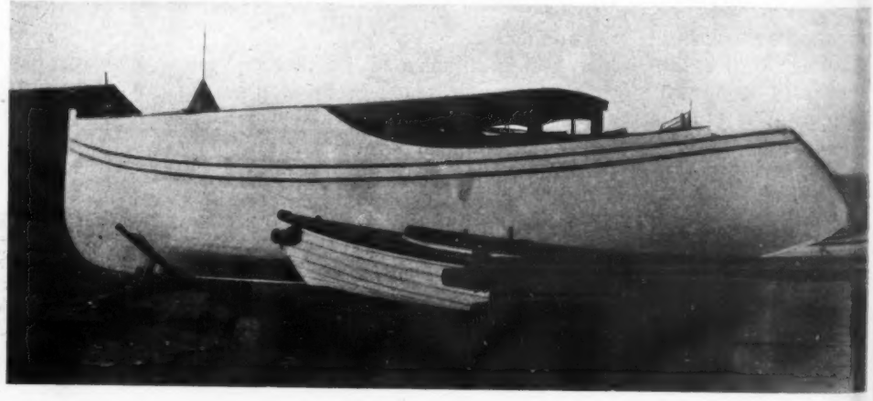
BOW VIEW OF GO-SUM BEFORE LAUNCHING.

by machinery. Doing it again, I should certainly have the mill make them and simply fit the panels into the boat, as the lumber alone cost me about $19. However, after many long evenings of work, often not quitting until twelve or one o'clock, I got them all made and in.

The next job was the berths. How to get comfortable and cheap sleeping accommodations, good for all the year round, if need be, caused considerable cogitation and investigation. I loathed the regulation pipe-berth, and all forms of "davenports" and folding-bed schemes, sold or advertised, had the fatal defect of being square-cornered, while anything that goes in a boat will be lucky if it owns one single right angle in *any* of its four corners. The easiest solution seemed to be a simple 3" x 4" yellow pine rail, doweled into the panels on both sides of the stateroom and launch-cabin, inside of which could be stretched a suitable canvas bottom tacked to framing strips nailed to the skin of the ship and to the panels fore and aft. Inspection and measurement of this scheme showed a width of 30 inches available at the after end of the stateroom and 22 inches at for'ard end of same. The ordinary steamer berth is but 30 inches wide, and, in point of fact, it is quite wide enough for anyone. In the launch-cabin there was 28 inches available for'ard, allowing a foot of gangway around the engine, and 24 inches aft—a little narrow, but not at all uncomfortable, as later events proved. So the stateroom berths were put in with 10-ounce duck and 20-ounce galvanized tacks. A trim of some of the left-over taffrail moulding was nailed on along the berth rail and a 30-inch mattress fitted in very nicely, thickening it up at the for'ard end, where one persuaded it into 22 inches of room with sundry vigorous punches in the side. These made very comfortable berths, and were made up like a bed at home, with sheets, blankets and white bed-spreads and pillows. A 7-foot runner rug in the stateroom, extending out into the launch-cabin as far as the engine, made a cosy room of it, with the help of four green silk porthole curtains on brass rods and a set of brass-handled drawers under each berth. These drawers were 18 inches wide and 15 inches deep, four to each berth, and held all one's wardrobe. The launch-cabin cushions were bought after no little examination of available styles. They were 7 feet 6 inches long by 28 inches wide, and cost $4 each in plain green denim, with the usual button upholstery, or $7 each in green velveteen. We chose the former, as it could come to no possible harm by getting wet; for I foresaw the times when that boat would be left in the offing with her cabin windows open, the crew ashore, and a thunder-squall coming up to soak everything.

For the launch-cabin floor we chose a hard green buckram and hemmed it with green tape, as we expected to take it up frequently and wash it clean of engine grease, mud, water-stains, etc., and subsequent experience proved it a good idea. We finished the interior of the launch-cabin in cherry japalac and varnish, with an oak cove beading trim let in around all panels and in the doors under the launch-cabin berths. Two brass yacht lamps in swinging gimbals, with smoke bells overhead, went on the two for'ard panels of the launch-cabin, and the ship's clock and compass-box went on the after-panels. A tiny glass pane let into the port after-panel allowed one to see the compass inside, either by day or night. It beat the small binnacle scheme out of sight.

As I stated somewhere earlier in this article, we did not see that over 3 feet of length of the boat needed to be devoted to the galley. We paneled in all one side of this space from the stateroom to the bathroom partitions, to form a large, full-length clothes locker on the port side of the galley. It contained a dozen clothes hooks, which would hold oil-skins, overcoats and the wife's dresses, to say nothing of such long duffle as brooms, guns, fish-poles and fog horns. The starboard side was the galley proper. At a height of 32 inches I put a horizontal length of 7/8" x 6" oak on edge and paneled in below it to make a cupboard for staple groceries. Between this board and the skin of the ship went a small iron sink with a rubber stopper, costing $2.10, and a small baby refrigerator, painted to imitate oak, and costing $2.75. It was 16 inches long by 12 high and 12 deep, and held a 5-cent cake of ice in one end in a tank that connected with a little nickel-plated faucet. There was also a movable shelf in the outer compartment, and the amount of meat, eggs, butter and general perishables that little refrigerator would hold was astonishing.



THE HULL COMPLETED.

All the ship's tea cups hung from hooks on the carlins of the roof, and the plates went in racks behind the ice box. Frying-pans, pots, skillets, etc., went on hooks fore and aft in the galley. We had the finest breakfasts and suppers ever eaten in that little galley. I was always in the city for lunch, and my wife either calling or visiting, or, if on board, she would get up a "snack" by herself.

The bathroom was finished in white enamel throughout, with a gorgeous display of nickel-plated bathroom fittings. It was

always breezy and glorious in the early mornings, as we had generously given it two portholes and the for'ard skylight hatch in its 4 feet 3 inches of length. Its door had a remarkable invention of my wife's, which consisted of a pier-glass mirror looking into the galley. One could thus dress in the stateroom not 3 feet away from this mirror and observe the habiliments of fashion and the mold of form to one's heart's content. I believe this glass was the sole thing that kept my wife on that boat all summer. In the bathroom went the smallest enamel corner basin manufactured. It is 13 inches on a side, has a single nickel faucet connecting to the fresh-water tank, and cost $7. The toilet, of standard yacht pump type with oak seat, cost $30 complete, installed by a yacht plumber.

This completed the interior furnishings of Go-Sum. Her portholes were plain brass, 5 inches, costing $2 apiece. I put on a 4-inch by 17-foot signal mast, both for looks and for the sake of having a spar to bend a sail to in an emergency. I also made an awning rail of ½-inch galvanized iron pipe running on 16-inch stanchions a foot inside the eaves of the extension trunk cabin. A stout spar from the mast each way to the ends of this rail gave a ridge over which the awning could be drawn taut by lashings through grommets on the hem and passing around the awning rail. It kept both stateroom and launch-cabin cool on the warmest days, as it kept off the sun and gave a foot of shade between the deck and the awning.

The engine was an 11-horsepower, 4¼" x 4¼" 800 R. P. M., and it gave her about 9 knots speed. She went from Saiior's Snug Harbor, Staten Island, to the yacht anchorage off West Ninety-fourth Street, New York, in 1¾ hours' actual timing. It was a mighty nice engine, with an exceedingly fool-proof oil system, and it took Go-Sum up to Albany and back and out to Boston by the outside route without any trouble, to say nothing of the innumerable cruises around New York waters.

Over the engine went the oak living room and dining table of the yacht. It had ½-inch round iron legs that went down 4 inches into holes in the oak engine-bed timbers, so that the table could be picked off in case it was necessary to get at the engine and take her apart (which I have never had to do yet, glory be!). Under the table I screwed the ignition equipment complete, batteries and spark coils—a handy place. I only used one engine control—that of the carburetor. A handle for it ran along under the table and came out at the after-end, where it was within easy reach from the cockpit. The timer handle you adjust when first getting under way. The fewer mechanical links you have about a boat the more fun you will have, and the less things will go wrong.

As to fittings, nothing but polished brass running lights, whistle-pump, steering wheel, fog bell, flag sockets and chocks would do for us. I won't say how much time we put in throughout the summer in polishing these infernal things, but will say that we bought the whole outfit at a motor-boat supply house for less than $30. At the end of the season the only things left that could in any way be called polished were the running lights.

This about winds up the yarn of the Go-Sum's building, except the painting and launching. As to the former, it took a tub of white lead and two cans of "yacht white," which is a quick-drying dead white paint, very like copper bottom paint in its action. Stir and thicken in another can as you use it, to get the best results. To get the boat from the back yard down to the shore cost $12 for the hire of a truck and riggers, and they ran her into the briny on rollers under the same cradle that I built under her after the planking was all done, caulking in and seams puttied. If you want a "double-X" little summer resort to solve the eternal summer problem, just build a Go-Sum. If you start in February or March, hire carpenters for the heaviest work and do all the rest of the interior and outside work yourself, working evenings and Sundays, you'll have her overboard by June 1, and you'll then have all summer to enjoy her in.

DETAILED LIST OF CONSTRUCTION EXPENSES OF GO-SUM

Frame	$85.00	L. C. curtains, etc.	$4.00
Planks	51.00	L. C. windows	7.00
Interior woodwork	35.00	Skylight	3.00
Paint	8.00	Eight stateroom drawers	4.00
Gasolene tank (60 gals.)	14.00	Miscellaneous brass hardware	6.00
Yacht toilet	30.00	Miscellaneous galvanized hardware	11.00
Basin and sink	7.00	Stateroom carpets	7.00
Ice box	3.00	Galley stove	2.00
Portholes	12.00	Galley floor and locker	3.00
Mattresses	9.00	L. C. lamps	4.00
Launch cabin cushions	8.00	Bilge pump and boathook	5.00
Running lights, pol'hed brass	12.00	11-H. P. engine complete with screw, shaft, etc	207.00
Brass gear chocks, etc.	14.00	Paid carpenter labor and construction hardware	124.00
Life preservers	3.00		
Anchor and rope	6.00	Total cost	$707.00
Awning and rail	6.00		
Signal mast	8.00		
Rudder, ⅛-in. boiler plate	4.00		
Dinghy	5.00		

Revised Rules for the British International Trophy for Motor Boats

THE necessity for altering the conditions and rules of the British International Trophy having been apparent since the races at Larchmont last August, negotiations have been carried on for some time between the donor, the Royal Motor Y. C. of Great Britain, and the Motor Boat Club of America (the present holder). These resulted in a new Deed of Gift being formulated in December of last year, some of the principal clauses of the deed being the following:

Boats representing a country shall be selected by the recognized club of that country. The recognized club of Great Britain and Ireland shall be the Royal Motor Y. C.; the recognized club of France shall be the Automobile Club de France; the recognized club of Germany shall be the Kaiserlicher Y. C.; the recognized club for the United States shall be the Motor Boat Club of America. If there be any dispute as to what is the recognized club of any country other than those named above for the purposes of this race, the trustees shall decide, and their decision shall be final.

Rules affecting the conduct of the race and restricting the length and nature of the course, the measurements and equipments of the boats, size or horsepower of the engines, and all such rules and regulations as are necessary for the proper conduct of the race shall be settled by a committee composed of one representative of the Royal Motor Y. C., one representative of the donor, and one representative of each of the recognized clubs of the countries which competed in the last previous race for the trophy.

Under this clause revised rules governing the race have been formulated by the Motor Boat Club of America, the donor, and the Royal Motor Y. C. (trustees), the text of which follows:

1. The races shall be run between June 1 and October 1 in each year. There shall be at least two races, and as many more as may be neccessary until one country has won two races. The races shall be held from day to day, except Sundays, unless a postponement is ordered by the International Commission under Rule 15. The country which first wins two races shall be adjudged the winner of the trophy. Not more than one race shall be held on one day unless with the consent of all the contestants given

(Continued on page 260.)

The Recollections of a West Indiaman

BEING THE REMINISCENCES OF A STEAMSHIP OFFICER OF THE DAYS OF HIS APPRENTICESHIP IN A WINDJAMMER RUNNING TO THE WEST INDIES

By FREDERICK WILLIAM WALLACE

Drawing by the Author

WHILE searching among some of my personal papers recently I came across one, stained, tattered and almost illegible. Examining the document in idle curiosity, I was agreeably surprised to find that it was my apprenticeship indentures to a West Indiaman, dated October, 1864. Forty-six years have passed since I scrawled my signature to serve for four years as a 'prentice seaman, and, as I scrutinized my boyish "fist," my mind fled back for a space, through memories and vistas of many ships—"Limejuicers," "Cape Horners," "Down-Easters" and "Bluenose"—to the days when, raw and green, I learned the ways of the sea.

I must own that I feel some little regret that the good old days of sail have passed away, even though I have been used, for many years, to the comparative luxury of the liner, with its high speed, triple-expansion engines, wireless telegraphy and all; but when a man has been through the mill in the age when sail reigned supreme it is hard to get the "windjammer" taint out of the blood.

The vessel I served my time in was a smart little barque of 450 tons, sailing out of Liverpool to the Leeward and Windward Islands and to the Guianas. I joined her in Liverpool, and proceeded to make myself useful; and when I had served three weeks of my time in dock, polishing brasswork and sweeping the decks of a West Indiaman, I began to flatter myself that I was fast becoming a real sailor. In my brass-bound uniform and glazed cap I strutted ashore o' nights, the admiration of the landlubber and the sarcastic jibe of the old shellback; and I was convinced that the life I had chosen was the noblest of all professions. I have since thought otherwise, after forty-six years of it. The hardships of a sailor's life is more than worth the ultimate reward.

In due time we loaded for Barbadoes and Antigua, and, sails being bent by a rigger's gang, we prepared for sea. The crew were shipped, and one fine autumn morning saw us warping down to the dock head.

The captain holds a prominent place in my memory. He was the beau-ideal of a shipmaster—a splendid sailor, navigator, and a gentleman. We boys regarded him with reverential awe, as he paced the quarterdeck, dressed, as was the fashion in those days, in a frock or "square-mainsail" coat, and a tall silk hat.

The mate was of a different caliber. He was of the old school, a splendid seaman and navigator, but a hard citizen. He had been master of some fine ships, but a fondness for rum proved his ruin. He opened the ball by "straightening up" two sailors who were skulking in the fo'c'sle with a bottle of bug juice. We were setting up the headgear at the time, and the way the two recalcitrants hopped out on the jibboom to bend the jib after the mate banged them was a great sight!

We towed out as far as Holyhead, but before we dropped the tug I paid tribute to Neptune in a striking manner. The mate, seeing me hanging around, asked sharply, "Can you climb?" and, on receiving an answer in the affirmative, he said, "Well, get that grease pot that's hanging on the mainstay an' grease down the mizzen topmast."

Up I went, as smartly as possible, endeavoring to create as favorable an impression as I could in the eyes of the mate. As long as I live I'll never forget that greasing down. The barque was just crossing the Bar and was beginning to roll to the long swell. The smell of the foul grease, combined with the motion of the vessel, intensified by the height I was up, made me horribly sick. I grasped the rigging tight enough to squeeze the tar out of it, and in some fashion finished the job and reached the crosstrees. The captain was below me, pacing the deck, "square-mainsail" coat and all, and he got my first contribution. The next I put in the slush pot. Miserable and scared, I hung on to the crosstrees, with the lanyard of the slush pot around my neck, crying bitterly at the disgrace I had brought upon myself. Dire thoughts of the "old man's" vengeance flashed through my mind, and I stayed where I was. I was reassured, however, when the mate hailed me, not unkindly, to come down. "All right, my lad, you'll get over that," said he, and I blessed him for his words. I was a sorry sight—pale, woebegone, covered with grease, and with the foul pot around my neck. Many years after, Mr. M——, the mate, used to tell that tale of my first "greasing down." The captain went below, and never, by word or look, took any notice of the unpleasant incident.

Off Holyhead the towboat left us, and the cry came from the mate, "All hands make sail! Tumble up, there, every man jack of you—cook and all!" As it was blowing hard, she was put under two lower topsails, reefed foresail and foretopmast staysail. This did not suit the "old man," who was something of a driver.

"Mr. M——?" said he, quietly.

"Yes, sir?"

"We'll let her have all she can carry. What she won't, she'll drag. Set the main and fore upper tops'ls; shake the reef out of that fores'l, and give her whole mains'l and outer jib."

"Aye, aye, sir."

Then, a few minutes later: "Let her have the maint'gallants'l."

"All right, sir."

"—And spanker and mizzen stays'l."

When she got these rags on the sprays were going as high as the main yard, and the "old man" was rubbing his hands in glee.

"Mr. M.——, I think she'll stand the fore to'gallants'l."

Under these kites the West Indiaman fairly tore through the water, and, making the most of the wind, rapidly cleared the land.

In those days we flew such "sailor teasers" as studdingsails, and in the N. E. trades we had them up all the time. I recollect one incident in connection with stu'n'sails. Our second mate on my first voyage was a pretty useless fellow—a relation of the owners—who held a master's ticket. (How he got it is beyond my understanding.) It was in his watch, and we had all the booms out, and were setting a maintopgallant studdingsail. There was a good man in the top setting the sail, and everything would have gone up all right if the second mate had let him alone; but, wishing to air his knowledge, the "greaser" finally bungled the whole business. The watch were standing by the halyards ready to haul up, and I was aft, taking in the slack of the tack, standing close to the "old man," who was watching the operation. At last the captain called to the second mate, "How long are you going to be setting that sail?"

The man looked confused, and murmured: "Er—ah—there is something wrong with the tack, Captain."

"Well," growled the "old man," "find out what is wrong."

Mr. R—— cleared his throat, and, striding to the break, shouted

out in a high voice, "Ah, Jack What's-your-name, go out to the extreme end of that maintawpsail yard and see what impedes the progress of that maintawpgellent studdingsail tack from arriving home to its destination."

At this amazing order the man aloft nearly fell off the top in surprise, and the watch grinned audibly.

The "old man" roared, "Well, I'll be damned! Haul down that sail to the top again. How long have you been to sea, Mr. R——?"

"Er—six years, sir."

"And you've got your master's certificate?"

"Yes, sir."

"Well, then, you can take those two sights that are down on my table, and you might work up the ship's position by double altitude and let me know what you make of it."

The "greaser" went below, and the "old man" set the stu'n's'l himself. He sent aloft some more flying kites to the booms, and the gear and ropes had been coiled away, but the second mate was still below. After the lapse of an hour I was sent after him, and found the luckless fellow sweating and swearing over a maze of calculations. He cursed me savagely when I gave him the captain's message.

On coming on deck again with his figuring, the captain asked him if he had worked that position out.

Looking like a fool, Mr. R—— answered, "Er—that is—I'm afraid I'm considerably out of practice, Captain. I'm afraid I've come away and left my 'Helps to Memory' at home——"

"Aye," growled the skipper, "something like the Dutchman's anchor. That'll do," and he turned away in disgust, while the crew stole derisive glances at the discomfited officer. The incident soon got around the whole ship, and when the second mate would be spending his watch on deck, gazing into the sea over the lee bulwarks, the men would declare that he was looking for his "Helps to Memory." This man disgraced himself a short time after in another ship by going to sleep on watch. A squall drove up, and the helmsman could not wake him, with the result that the vessel was dismasted. At Barbadoes I was appointed captain of the gig, an honor which consisted in looking after the captain's boat, and, with another boy, pulling him to and from the shore. At six o'clock every morning I had to wash and clean that boat out, and woe betide me if everything was not in apple-pie order! I would get no breakfast until she was scrubbed to the mate's satisfaction. When he had inspected her, he would sing out for me to go and get my breakfast and tidy up to go ashore. I would be all wet and slushing after mucking around the gig and ravenously hungry; but I did not get much time to eat, as I had to change my clothes and go to the galley with my pannikin for my allowance of coffee and salt beef (dirty water and measly horseflesh it really was). Usually, before I could get a mouthful of this wretched provender the mate would cry, "Billy!"

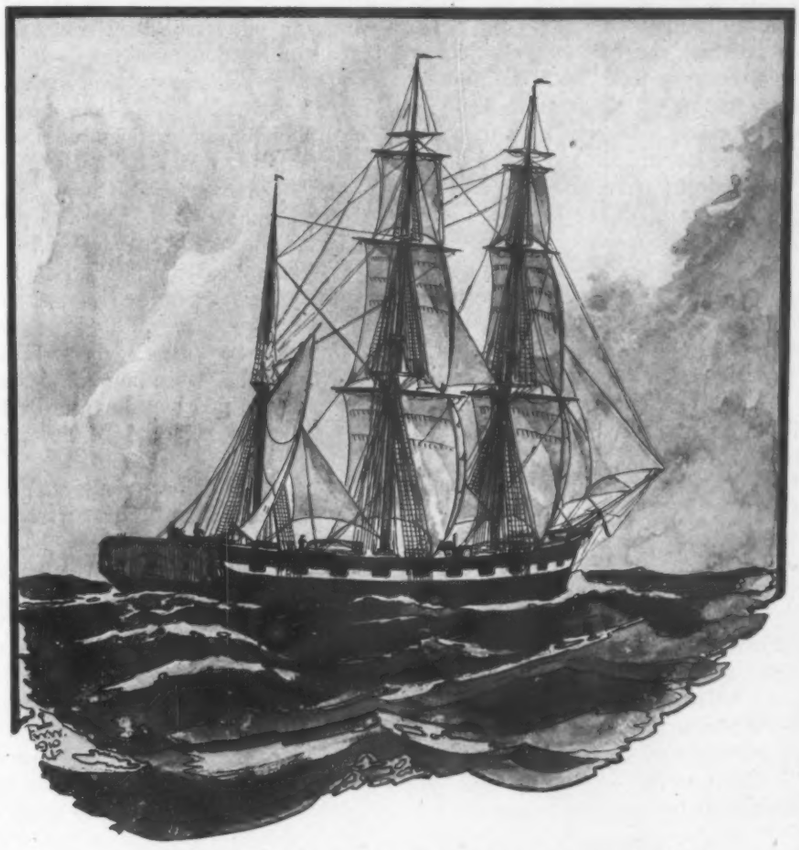
"Yes, sir?"

"Get in the boat now. Look alive!"

I would get one final bite at a weevilly biscuit, and, as I passed the captain and the mate, standing at the gangway, that old swab of a mate would say, "Eating again? Get into the boat! My God, but that boy is always stuffin' himself!"

God knows we did not get much to eat on English ships in those days, and little wonder is it that our best seamen went over to the Yankee ships, where they were well fed and well paid as long as they knew their duty and did not put on any airs.

It was a noticeable thing, the amount of respect a captain commanded then. When he stepped ashore all the planters and negroes made a respectful salute as he passed, and he was entertained by the best families in the islands. Indeed, a "West-indie" skipper was counted as someone, and respected accordingly. When we came into any of the landings it was in man-o'-war fashion, and "Clear the way for Merchant Jack."



A WEST INDIAMAN. BARQUE WESTWOOD, OF LIVERPOOL, 1864.

On my second voyage to Barbadoes in the same vessel we had quite a lot of trouble with the crew. The West Indies to a sailor spells rum, and plenty of it. As soon as we dropped the colored pilot the drogher boats came off from shore loaded with fruits and sugar cane, and also plenty of strong rum. Oh, how we boys used to go for those oranges, bananas and sugar cane! Even the fear of Yellow Jack, which was prevalent then, did not deter us.

As soon as we made our moorings we pulled the captain ashore. The master, in those days, generally gave the mate his orders regarding the discharging of the cargo before he went ashore in the morning, and he also issued instructions for a strict watch to be kept on the crew to see that they did not get any rum from the boats alongside. The cargo had to be discharged by hand—that is, by a crab winch. Eight men manned the winch, and it was hard work in the hot sun, and very slow. It took fifteen to twenty minutes to heave a weight out of the hold into the lighters alongside. Of course, the negroes gave a hand, and the men would start a chantey, and when there were seven or eight ships in the bay with crews engaged in similar occupations we heard some very fine singing. The negroes were the finest chanteymen. Their choruses were exquisite to listen to.

About two hours after the captain left on the trip in question things began to get pretty lively on board, and our gang of Liverpool toughs and packet rats were all "in the sun." Before din-

ner all hands, mates and all, were full of rum. The second mate on this voyage was a temperate, steady man; but the old mate induced him to have a "tot," and he was soon *hors de combat* in his bunk. The mate remained below with a jar of strong liquor, but he could drink all hands blind. As sailors say, "he would drink rum out of a flower pot"—at least, that is the most polite rendering of the expression.

The cook got drunk early in the morning and spoiled the crew's dinner of pea soup and boiled pork, and they started for him in a body. The "doctor" retaliated by ladling hot water from his coppers on the gang, but they bombarded him with biscuits and pieces of pork till he locked himself in his galley. The men then got the pea soup and painted the port side of the barque with it from the fore to the main rigging. This was done as a silent protest against being served with salt junk and pea soup while in port.

After this the crew again turned their attention to the cook, and, using a studdingsail yard as a battering ram, they stove in the galley door and impelled the cook out through the other side. The man was very nearly killed and laid insensible on the deck, while the men, their vengeance satisfied, retired to their bunks.

When the captain came off in the afternoon the first thing he saw was the disfigurement of the barque's dark green hull. The mate stood at the gangway as we came alongside, and the captain gave him a searching glance as he stepped aboard. The decks were in an awful state. The galley doors were smashed, and the cook lay out on deck amid a pile of débris, broken biscuits, pieces of pork, pots, pans and coal, while pea soup and water covered everything.

While the "old man" was below taking his coat off a sailor came aft, quite sober, and, on the mate asking him what he wanted, he replied that he wished to see the captain.

"Well, you can't see him," snarled the mate, thickly; "so get for'ard, or I'll help you."

The sailor refused to move, and reiterated his demand.

At this juncture the "old man" came on deck again, with a most determined look on his face.

"Well, what do you want?"

The man thrust out his hands and said:

"Captain, I refuse duty, and I hold up my hands to you. You can put me in irons quietly and give me in charge, for I will do no more work in this ship."

The mate was steadying himself and glaring at the man in a savage, menacing manner, making ready to go for him if the captain gave him any encouragement. The "old man" turned calmly around to me and said quietly, "Willie, bring me the signal book."

The change in the mate's bearing was almost electric as he heard the words. The glowering, sullen look faded off his face and changed into one of piteous appeal, as he hung on to the pin rail to steady himself.

I brought the book up, and, as the "old man" turned the pages, he glanced at the mate, whose face betrayed the fear in his heart.

"Go to your room, sir," rasped the skipper, and the officer, tough and all as he was, went below like a whipped cur.

A British warship lay at anchor half a mile to port of us, and the mate was sailor enough to know that, as soon as the "assistance" hoist went to the gaff, his professional career as an officer ended there and then. I shall never forget the sudden change in his expression when he heard the words "Signal Book."

The sailor, who was the only sober man of the crew, had had to fight for his life among the drunks in the forecastle, and, as he was studying for second mate, to have been involved in this affair would have finished him; so he came aft to surrender himself. The "old man" assured him sternly that no more scenes like this would happen while he was in command, and the sailor was satisfied and went for'ard.

Next morning the "sailor" in the old mate asserted itself, and he had all hands out at 5 a. m., the ship scrubbed clean fore and aft, and by eight bells they were working the drink out of themselves at the crab winch.

Owing to the trouble that our captain had had at various times with drunkenness amongst English crews, he decided in the future to ship only negroes in the forecastle, and for the remaining years of my apprenticeship I sailed with colored crews. They were fine sailors, these men, quiet, strong and respectful. Many of them hailed from Baltimore and the cotton ports of the southern United States, but my pleasantest memory in regard to them was their chanteying. They sang the choruses in weird falsetto notes, and with the fascinating pronunciation of the Southern darkey. They sang a chantey for every little job, and the way they thundered out such plaintive melodies as "Shenandoah, I Love your Daughter" or "My Lowlands Away" made them a treat to listen to. I once heard a well-known prima donna in Liverpool pass the remark that our singing was the finest harmony she had ever heard, and I have seen crowds of people on the dock head at Liverpool listening to our colored "jacks" warping out to "Ladies, fare-ye-well," an outward-bound song, and, as sailors say, "their tears were running down into the dock."

In my reminiscences the memory of the old mate keeps freshest, as we looked upon him as our natural enemy. For him we kept a sharp lookout, and he inspired a wholesome terror and respect in our minds. I was very much afraid of him and jumped around pretty lively when he was looking. If I did not move fast enough to please him he would rasp out, "Move yourself, damn ye, or I'll make a spreadeagle out of you!"

When I asked the men what this meant they told me that he would trice me up in the rigging, hands and feet outstretched, and give me forty lashes with a rope's end. They would reassure me, however, by saying, "Never mind him, Billy; he darsn't harm ye, for you're the 'white-haired boy' aboard of this packet, and the 'ole man' 'ud ride him down ef he touched ye."

In the mate's opinion we were nothing but a pack of lazy boys who were loafing, gorging and stuffing ourselves all day—a thing which was ridiculous on the face of it, as it would have required a great deal of moral courage for any boy to gorge himself on the filthy grub we got. Though sour, stern and bad-tempered, the man was kind enough in his way, and took pains to teach us seamanship and navigation. I must give him credit for his rough lessons, as I became grounded so well under him that I had no difficulty in after life, and I have been on some hard packets since then. When a man can stand seven years as mate of "Bluenose" craft—the hardest and most exacting schools in the world—it speaks well for his early training. I met him many years afterwards, and his delight when I got my master's ticket was sincere.

On one of our voyages from Barbadoes to Liverpool we had a gentleman and his wife and small daughter as passengers. The little girl was a great favorite with the "old man," and I, in turn, was a favorite of hers. To her I was indebted for many delicacies smuggled from the cabin table. One day I was at the wheel steering E. N. E. with a fair wind. It was a beautiful day, warm and sunny, and all hands and the mate were for'ard working at the headgear. The "old man" was below having a nap, and I was alone at my end of the ship, twirling the wheel and figuring up how much wages were coming to me for four months at $35 a year, when suddenly the little girl stole up the companionway with a plate of preserved ginger for me. I gave an anxious glance around for the mate, and gobbled the dainty with keen appreciation. The girl then coaxed me to let her steer, but my fear of the mate was so strong that I would not listen to her pleadings. However, she was a persistent young lady, and, before I knew what she was doing, she had squeezed past me and grasped the spokes. While I was making feeble protests, I did not notice that the barque was running off her course, as we had been running with yards square and stun's'ls alow and aloft, until all at once the row commenced. Flap, flap, flap! Bang, bang, bang! Away went stu'n's'ls and

booms. I grabbed the wheel, and was pulling it over hard a-starboard to get the ship on her course again, when the mate came aft on the run, as savage as a Turk. Glancing at the compass with a terrible oath, he shouted, "You damned young——! You've been asleep, damn you!"

I got the rough side of his tongue for a while, until the captain saved me by coming on deck in the midst of Mr. M——'s tirade. Glancing around, he took in the situation.

"What's the matter, Mr. M——? A sudden shift of wind, eh?"

"No, sir," answered the mate, looking daggers at me. "No shift of wind. This damned young——"

"Hush!" said the skipper. "No swearing, please. Clear away your wreck, Mr. M——, and get all your stu'n's'ls on her again. There's only a boom or two broken."

As he went below again he glanced over at the real culprit, who was guiltily peeping out from behind the cabin skylight, and I saw the smile on his face as he entered the companion. I am sure the "old man" knew the truth of the affair as soon as he came on deck, but the mate was always ready to believe the worst of a boy.

There were very few men like my first skipper, and when he was drowned on my last voyage I shed many tears at his untimely end. We had loaded our cargo of sugar and molasses in the Demerara River and lay outside the bar waiting for the captain. He came off from the city in a drogher schooner manned by two negroes, and when he was almost up to the ship he fell overboard from the stern of the craft. As the schooner was running before the wind, he was far gone by the time she picked him up, and died half an hour later.

But the day of the sailing ship is gone. The East and West Indiamen—the pride of the white-winged fleets in their day—have vanished, and the memories of their romantic era remain only in the minds of the old shellbacks who lived in their time. The smart clipper barques no longer run the trades with kites flying and stu'n'sls alow and aloft, for they have succumbed to the Age of Steam—as I have done myself.

The Month in Yachting

THE Illinois River valley expects to see the real thing in speed this summer. Boats of an average speed of 25, 26 or even 27 knots are not unusual to the dwellers of Ivyland; but when the new flyer which Commodore James A. Pugh, of the Pistakee Yacht Club, of McHenry, Ill., is having constructed by a sort of joint mechanical merger process begins to touch only the highest wavelets, memories of the Hoosier Boy, 1909 champion, and Emerson, last year's premier record filcher, will fade away for shame. Fauber, the French builder, father of the aeroplane of that name and designer of the British crack, Pioneer (the Harmsworth Cup challenger, which got so far ahead of the American defender, Dixie, that the challenger's engines blew up with mirth), received the commission to turn out a hydroplane hull that will embody all the latest improvements in those wonderful speed creations. The project will loom bigger when I inform you that the engines are to be 500 horsepower. Gee whiz! Do you get it? Say, boys, what think you such runaway craft as Traver, Whitlock, Corsepius, Hughey, Koenig, Sinnig, Kelso, Deming and the rest of the Western Association boys own will look like when Commodore Pugh's bearcat is turned loose among them? So far as I can see, the only difficulty will be to keep the frigate in the water. Other dimensions will include 32 feet length by 5 feet beam, the weight not to be more than 4 pounds per horsepower. Messrs. Pugh and Fauber recently spent several days at the factory testing the engines, as a result of which the French wizard expressed himself confident that the new racer would reel off at least 53 miles an hour. What? That was what I said—53: count them!

THE LATE CAPT. CHARLES BARR ON THE DECK OF WESTWARD, HIS LAST COMMAND. A. S. COCHRAN, THE OWNER, IS SEEN AT THE WHEEL.

While on the subject of speed and its relation to the forthcoming races for the British International Trophy, I hear rumors of several new boats (mostly hydroplanes) that are being built for this event and for which very high speeds are claimed. Mr. J. Stewart Blackton is to become a seeker after international honors, and is having a craft built for these races from which the designers expect something like 50 miles.

Here is an excerpt from a letter I received recently from a skillful young shellback, formerly to the fore in the raceabout racing game:

"Your article on Raceabouts on Lake Michigan was most interesting, for it shows where some of the good old boats have gone. It seems a pity, and yet quite remarkable, that the only real raceabout class on the Sound now is the ten-year-old American Yacht Club one-design class."

Mention of the American Yacht Club calls to mind the fact that they are putting through there a fine bit of constructive work. To be more explicit, it has organized a one-design "bug" class, drawings of which were made by William Gardner, a fact which insures speed and safety. The boats will be 22.3 feet over all, 15.3 feet waterline, 5.7 feet beam, 3.4 feet draft, and total sail area 260 square feet. Fifteen members of the club have signed for boats of this class, and the success of it is, consequently, assured. The idea of the class was to appeal to sons of members of the club, in order to perpetuate in the organization the racing spirit which has characterized it in the past years.

The genial, versatile and efficient Matthew McCarthy will lead the Albany Yacht Club in the capacity of Commodore this year, and it thus may be accepted as assured by all motorboatmen who put into Albany that they will be taken care of and that every facility for looking after their boats will be convenient. The club has its home on the new concrete recreation pier, and is finely quartered there.

The man who announced that the name of Morton Plant's new 90-foot racing schooner would be Eastward was not a very good

guesser, it appears. Of course, the name of Mr. Cochran's international cup winner Westward was responsible for the lubrication, but it was a bad guess. The name Helena, in honor of Italy's Queen, will appear on the sternboard of the fore-and-after now approaching completion at Bristol.

I am glad to see that Harry Haff has been named as the probable successor to the wheel of Alexander S. Cochran's schooner Westward. Haff is a fine skipper, possessing not only acquired cleverness, but a native ability inherited from that grand old hero, "Hank" Haff, Harry's father. Haff had been sailing master of H. F. Lippitt's 65-foot Winsome for several years, and when he had opportunities for racing her—which was not often, for the reason that Mr. Lippitt himself is a crack man at the stick—he left nothing, so far as judgment and general seamanship were concerned, to be desired. I have heard no denial of the report that Capt. Dennis, of Elmina, will have the wheel of the new Plant schooner, and suppose it may be regarded as a certainty.

Now for "Charley" Barr. No more untimely death has darkened the annals of American sport in years. Apparently in the best of health last summer, with all his old initiative, skill, resource and daring at call, there seemed little reason to believe that the great success he won in the season of 1910 would be his last. It may be said at the outset that he leaves a vacant place which no skipper, amateur or professional, can fill. He was one of those abnormal products which arise from time to time in all professions who are called geniuses. Barr was all of a genius, and his exploits will long be remembered by present and future generations of yachtsmen. I even dare predict a wider remembrance; for interest in America's Cup racing is national in its scope, and the name of Barr has in recent years been so closely associated with this event that men who never saw a 90-foot racing sloop are familiar with it.

The greatest thing Barr ever did was to defeat Shamrock II in the races for the historic cup. It will be remembered that Constitution had been built to defend the trophy, and that Uriah Rhodes had been selected by W. B. Duncan, Jr., manager of the new boat, to sail her. Capt. Barr was selected to command Columbia, and at once proceeded to utilize the advantage he possessed in knowing every quirk and turn of his charge. Capt. Rhodes, on the other hand, had a new craft, and also a craft that needed a lot of tuning and sweetening. She never really got into condition throughout the season—that is, she was never in the way of showing her best form—and to Columbia fell the honor of defending the cup a second time.

Sir Thomas Lipton was delighted. He knew he had a good boat, and the fact that the new American defender had fallen down, making it necessary to select Columbia, tickled his sense of the fitness of things. His only regret was that the races could not be sailed at once, so that the mere detail of the capture of the cup could be got over and he could return to England and prepare for the peerage. Then President McKinley was shot. I was on the Erin with Sir Thomas that morning, and he was not filled with equanimity. The New York Yacht Club, he said, would welcome the delay in the date set for the beginning of the series, but he would see to it that they did not get much of a delay. He seemed to be worried over the idea that the New York Club would hold the tragedy as an excuse to set the race over a month or so, or perhaps until the following year. But nothing like that for Sir Tom! as the Western papers speak of him. Fortunately for his peace of mind, the New York Yacht Club did not insist upon too great a delay, although it might well have done so—they would in England—and Columbia and Charley Barr were sent out to the line. In the first race, Capt. Sycamore nursed Shamrock out to the weather mark in the lead, and all patriotic Americans were withdrawing their attention from the race for sufficient lengths of time to uptilt bottles of sundry fluids. But on the homeward leg Barr, guiding his great sloop with the niceness and sureness of the master he was, passed the challenger and won the race by a few seconds. It was a feat to be performed by no one but a Barr. In the last race Shamrock had a good lead; but Barr stood off to New Jersey, found the breezes he wanted, and was able to bring his boat so close to Shamrock's stern as to win on corrected time.

Among his other noteworthy feats was the winning of the Kaiser's Cup in the trans-Atlantic international contest of 1905. Barr had command of Wilson Marshall's Atlantic, and the vessel hung up a new record for time of passage—sailing vessels—across the Atlantic.

Barr was only 5 feet 3 inches tall—a little, dark-faced, stoop-shouldered man, with black mustache, beetling brows and dark brown eyes. He was not especially companionable with those whom he did not know well, but was as fair and just a skipper with his crews as ever trod a quarter deck. And he never asked a man to do that which he was afraid to do himself.

Barr used constantly to talk to himself while racing. Flirting his eyes towards an opposing vessel, he would hazard to himself all sorts of conjectures as to what the rival skipper was doing, why he did this and why that. Then he would wonder what he should do—whether to come about, or haul closer on the wind, or what. If anyone hearing him talking thus offered advice it was never heeded, because it was never heard.

Barr was born in Scotland in 1865, and started in business as a grocer's clerk. But the call of the sea became too potent for him to resist, and he went into the trawling trade, serving on vessels engaged in taking fish out of the Clyde. He has been credited with having been one of the crew of the Scotch challenger Thistle, when that vessel raced against Volunteer in 1887. Such is not the case, however, as he was then serving his time on the Clyde, and the story is probably accounted for by the fact that his brother John had command of Thistle in that series of races. Charley had been to America, though, two years before, making the journey with his brother John on the 40-foot cutter Clara. Next he brought over the Fife 40-footer Minerva, and cleaned up everything here for three years. After that he remained in this country racing various notable boats, and generally with success. He became an American citizen in 1889, was married, and leaves two children. His home was in New London, Conn., where he was generally admired and esteemed.

Up on Lake Ontario I hear that there is every likelihood of the challenge issued by the Rochester Y. C. for a race for the historic Fisher Cup, now held by the Royal Canadian Y. C., being accepted by the latter organization—that is, if the terms of the challenge are modified somewhat. Sentiment in the Canadian club seems in favor of resuming relations with the Charlotte organization, and anything that will bring this about and cause the unpleasantness growing out of the last Canadian Cup affair to be forgotten will be welcomed.

The Rochester Club, although the challenger, seems to be bent on dictating the terms of the race; and, strange to say, the old bone of contention, Seneca, is still in evidence as the probable boat to represent the American club in the contest. The probable reason that the Canadians are willing to accept even this craft is probably due to the fact that Seneca was badly trimmed last season by Royal Canadian Y. C. craft. It seems unlikely that Addison Hanan will again sail the famous craft (it would redound more to the credit of the Rochester Club if one of its local members handled the boat); but the Toronto yachtsmen want to remember that last year Seneca was in the hands of a man unfamiliar with her, and that two seasons of handling by her new owner should make her a very dangerous opponent.

Here's hoping the two clubs patch up their differences and that this season sees a cracking good race for the cup last won by the Canadian Zoraya in 1906.

Navigation for the Amateur

A SHORT COURSE IN THE SIMPLER METHODS OF FINDING POSITION AT SEA BY OBSERVATION OF THE SUN'S ALTITUDE—THE USE OF SEXTANT AND CHRONOMETER

By CAPT. EDMUND MORTON

PART I.—DEFINITIONS, USE OF SEXTANT, LATITUDE

TAKE the Atlantic Coast chart from Cape Sable to Cape Hatteras, and you will find shown thereon the ragged coast line outlining the various harbors, bays and sounds, and the lighthouses, lightships, fog signals, buoys and soundings, all of which are necessary for pilot work in navigation. The margins of the chart are ruled off at the sides in degrees and minutes of latitude, and at the top and bottom in degrees and minutes of longitude. Straight, parallel lines are drawn, connecting like degrees across the chart, dividing it into small rectangles from Lat. 35° North to Lat. 45° North and from Long. 66° West to Long. 76° West.

Now it will be seen at once that, when a vessel is beyond sight of the land and shore lights and on the deep waters of the Atlantic, the only method of plotting her position on the chart is by means of these lines of latitude and longitude.

Standing on the deck of a vessel with nothing in sight but the sea and the sky, it would seem an impossibility to determine one's position, except by calculating the courses and distances from the last point of departure. All that is needed, however, is a sextant, chronometer, Nautical Almanac and a book of tables, and, of course, a clear horizon for taking altitudes of either sun, moon or stars.

Mysterious as these calculations seem to a novice, they are so simple that a school boy, knowing the common rules of arithmetic, can perform them correctly with a little practice. The real brain-work has been performed for us beforehand in the preparation of the data found in the Nautical Almanac and in the tables used. To understand the whole science of navigation would require years of patient study and a high mathematical training, but sufficient knowledge to work an ordinary "noon sight" for latitude and "time sight" for longitude is soon acquired by proceeding according to the formulas given. The beginner at first wonders if the vessel is really where the result of his observations put her. After proving one's position a few times, confidence is gained, and the results are taken as a matter of fact.

Let us refer to our chart again and explain what these parallels of latitude and meridians of longitude mean. A notice on the chart reads, "Mercator's Projection." From this we know that the chart before us represents this portion of the earth as a perfectly flat surface, distorted more and more as we proceed to the northern latitudes. Nevertheless, it is correct for all practical purposes as to shaping courses, measuring distances, etc., if used intelligently. The degrees of longitude are made everywhere equal, while the degrees of latitude are lengthened toward the poles. This needs an explanation.

Every circle is divided into 360 degrees, and the circumference of the earth at the Equator is divided into 360 degrees of 60 minutes each, and each minute is equal to one nautical mile. Now the meridians of longitude are imaginary circles running north and south over the earth's surface, crossing the Equator at right angles. If these meridian circles are drawn through each degree at the Equator completely around the earth through both the north and south poles, it will be seen that they all meet at a point at both poles. These meridians of longitude, 60 miles apart at the Equator, gradually approach each other until they meet at the poles, which shows how a degree of longitude is of different lengths, according to the latitude or distance north or south of the Equator. A minute of *longitude* is equal to a nautical mile only at the Equator or near it.

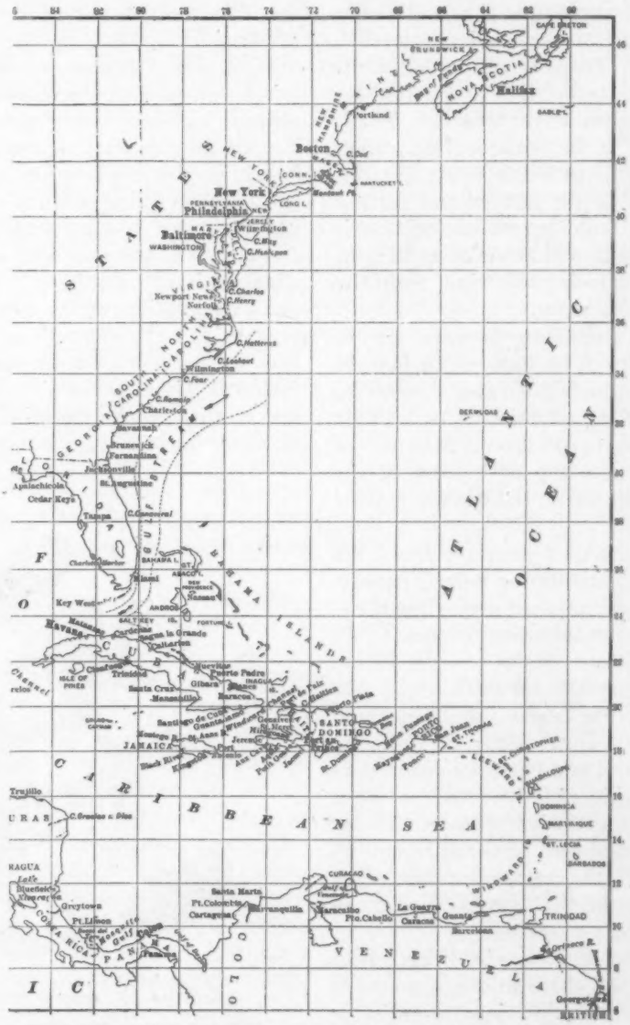


Fig. I.—Mercator chart, showing how parallels of latitude are lengthened out as the poles are approached to maintain their proper proportion to the degrees of longitude, which on this projection are kept parallel.

The meridian circles are all equal, and on these can be measured the latitude or distance north and south of the Equator. Parallel circles can now be drawn everywhere one degree apart north and south of the Equator, the circles growing smaller and smaller until the 90th degree is reached at the poles. In measuring latitude, we have both the Equator and poles to measure from, definite and universal. In calculating the distance east and west, however, no such natural markings exist, and some definite line on the earth's surface must be established for this purpose. The meridian passing through Greenwich Observatory, England, is quite universally used in measuring longitude from 0° East to 180°, and West to 180° in the circuit of the earth. The meridian of Greenwich is called the Prime Meridian.

The length of a degree of longitude can be measured between the meridians on any parallel of latitude desired. As before stated, these imaginary circles grow smaller as they approach the poles. The circumference of the earth at the Equator is a little less than 25,000 miles, one three-hundred-and-sixtieth of which is the length of one degree of longitude at the

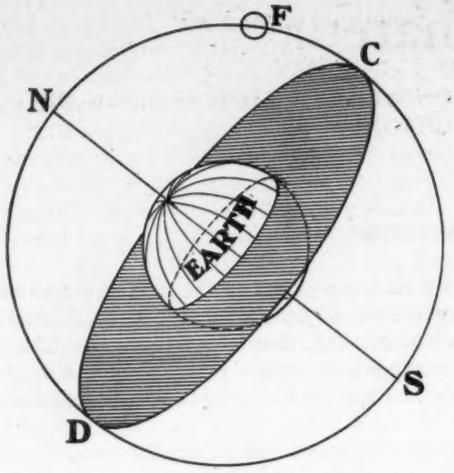


Fig. II.—N and S, Celestial Poles; C D, Celestial Equator (plane of earth's equator extended to cut the celestial sphere); N C S D, Celestial sphere; F, Position of Sun; Arc N F = polar distance; Arc C F = declination.

Equator. Thus, at the Equator 60 nautical miles constitute one degree of longitude; in latitude 21 degrees 56 nautical miles make one degree of longitude; in latitude 60 degrees 30 nautical miles make a degree of longitude, while at 90 degrees (the pole) the longitude is zero.

Degrees and minutes of latitude are everywhere equal, a minute being always equal to one nautical mile. According to exact measurements, there is a slight variation in different parts of the earth; but for our purpose it need not be further considered.

We now understand why the chart before us is not a true representation. The meridians, or lines running north and south, are drawn everywhere parallel instead of converging toward a point at the poles, as just explained. The degrees of longitude are here kept everywhere equal. To keep the right proportion between the degrees of latitude and longitude, the degrees of latitude are lengthened toward the poles. At the Equator the parallels of latitude and meridians of longitude form nearly exact squares, but gradually change proportion as they get farther and farther away from the Equator. When the 60th degree of latitude is reached the length of a degree of latitude will be twice as long as the degree of longitude. Fig. 1, Mercator's projection, from the Equator to 46 degrees north explains this point.

Much care must be exercised when measuring distances on the chart to apply the dividers to the degrees of latitude on the margin of the chart in the same latitude in which the vessel is sailing. The same care must be used in measuring off minutes of latitude between degrees for plotting the vessel's position. Minutes of longitude can be taken anywhere on the top or bottom of the chart, as they are drawn everywhere the same; but cannot be used for measuring distances.

In finding the latitude by observation of a heavenly body, we need its meridian altitude; also, its declination or polar distance. We must understand these terms for our present use of them.

To an observer, the heavens look like an immense dome or vault, the stars and planets appearing like mere specks of light in the far distance. For the purpose of astronomical calculations, we must imagine a great circle describing the heavens in an east and west direction, dividing them into two equal parts, the same as the earth is divided into a northern and southern hemisphere by the Equator. This line would coincide exactly with the plane of the Equator of the earth if it was extended so as to cut the celestial sphere. This great circle is called the "Celestial Equator," and is everywhere 90° distant from the celestial poles. The "celestial poles" are imaginary points in the heavens directly in the zenith over the north and south poles of the earth.

The earth makes one revolution on its axis in twenty-four hours, and, as the circumference of the earth at the Equator is nearly 25,000 miles, a person situated at the Equator must be traveling in an easterly direction over 1,000 miles an hour. A person at the exact pole of the earth would have no daily motion. This illustrates how the stars appear to rise above the eastern horizon each night, describe exact parallel circles through the heavens and set again below the western horizon. Stars near the Celestial Equator appear to move very rapidly, while those near the poles seem to have very little motion. For instance, the North Star is slightly over one degree from the celestial pole, and it describes a minute circle around this imaginary point daily. To a casual observer, it remains at a fixed point.

These heavenly bodies have their latitude and longitude in the sky, giving them each its definite position in relation to the others, much the same as places are defined on the surface of the earth. The angular distance of sun, moon or stars north or south of the Celestial Equator is called the declination of that body, reckoned in degrees and minutes of arc. The angular distance of the body observed from the celestial pole is called the Polar Distance. If the observer is in north latitude, and the declination of the body observed is north, the sum of the declination and polar distance will, of course, be 90°. If, however, the observer's latitude is north and the declination is south, the polar distance will be 90° plus the declination. If in south latitude, the polar distance would be reckoned from the south pole in a similar manner. (See Fig. 2.)

The meridian of any place is an imaginary arc of a circle passing through the zenith in an exact north and south direction, cutting the horizon at the north and south points. When the sun or other body crosses this line it is said to be "on meridian." The body has then reached its highest altitude, and, after passing meridian, the altitude grows less, until it finally reaches the western horizon.

Now it can be easily understood how an observer's position north or south of the Equator can be found when the meridian altitude and declination of a heavenly body are known. The sun is used for this purpose more than any other body, and will serve best in further explanation.

If the meridian altitude of the sun is 90° (or directly overhead), and it has no declination, the observer must be on the Equator. If the meridian altitude of the sun is 90° and its declination is 10° North, then the latitude must be 10° North. The sun's declination varies from 23° 27′ North about June 22 each year to 23° 27′ South about December 22. The correct declination for each day of the year is calculated and published in the Nautical Almanac for the especial use of navigators, so that all one requires is the meridian altitude of the sun at noon, and, by working out a simple formula, the latitude is known. The lati-

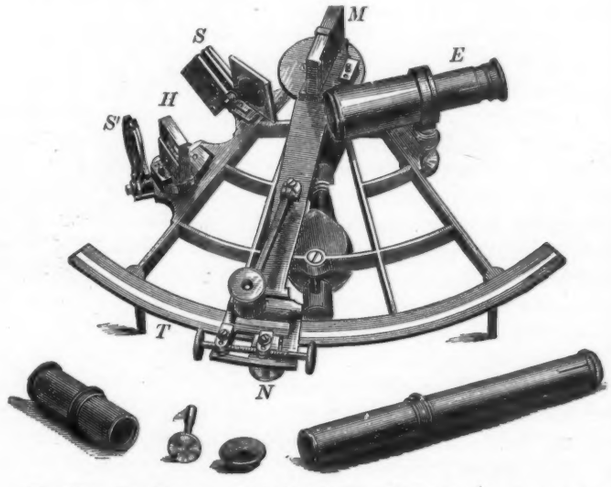


Fig. III.—The Sextant. M, Index Mirror; M N, Index Arm, pivoted in center of arc; T, Tangent Screw; H, Horizon Glass, the lower half being silvered, the upper half transparent; E, Eye Glass or Telescope; S, Colored Shade Glasses to protect the eyes from the sun; S′, Colored Glass for use when the sun is at a low altitude. A vernier is carried on the index arm.

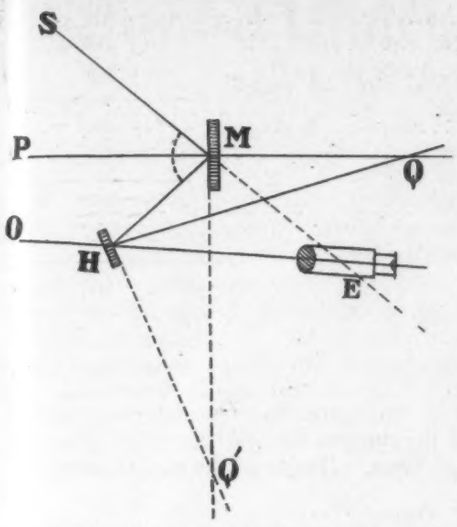


Fig. IV.—Principle of the Sextant. The ray S, coming from the sun, is reflected on index glass M, and then at horizon glass H, and is made to coincide with the ray O H coming from the horizon and seen through the eye glass E.

tude found in this way can always be relied upon as being correct.

The arc of the meridian from the horizon to the zenith measures 90°. The altitude of a body subtracted from 90° will give its zenith distance.

The formula then is as follows: Observe a meridian altitude of the sun and correct it for semi-diameter, refraction, dip of the horizon and parallax. Subtract the corrected altitude from 90° to get the zenith distance. If the sun bears south, name the zenith distance north; but if the sun bears north, name the zenith distance south. Now take the sun's corrected declination from the Nautical Almanac for that date and mark it north or south, as it is found there. If the sun's declination and zenith distance are both named north or both named south, their sum will be the latitude of that name. But if one is found to be north and the other south, their difference will be the latitude, to be named after the *greater* of the two quantities.

Here is an example:

June 18, 1910. Sun's corrected altitude.....	79° 49′ 31″
	90° 00′ 00″
Zenith distance	10° 10′ 29″ N.
Corrected declination	23° 24′ 21″ N.
Latitude at noon	33° 34′ 50″ N.

After a little practical experience in working out the latitude in this way the rule will hardly be given a thought. The navigator will know approximately his position—that is, within a degree—and the result will show at once whether the zenith distance and declination have been applied correctly. However, this is not always so evident when the ship changes the bearing of the sun from north to south, or vice versa, as often occurs when sailing in the tropics.

The observed altitude is the angular distance of a heavenly body above the visible horizon as measured with a sextant in ordinary practice at sea. Fig. 3 shows this instrument with all its essential parts. The arc consists of about one-sixth of a circle, as its name indicates, and is usually made of silver. This arc is divided into half degrees, which are named as whole degrees. Altitudes over 120° can be measured with it, but it is seldom an altitude is taken at sea over 90°. These degrees on the arc are divided into six parts of 10 minutes each. A graduated scale on the vernier further divides the reading to 10 seconds, though the scale varies on different instruments. The colored shade glasses of red and green are used to subdue the light and protect the eyes from the brilliancy of the sun. Those placed below the horizon glass are only needed when the sun is at a low altitude, making a glare upon the surface of the water between the observer and the horizon.

When ready to use, the observer holds the sextant with his right hand by the wooden handle at the back, and, facing the sun, looks through the telescope and horizon-glass towards the horizon. Then the vernier is moved forward along the arc by the left hand until the reflected image of the sun, passing from the index mirror (*M* in Fig. 4) through the horizon-glass (*H*), is seen to touch its lower edge (or limb, as it is called) on the horizon. When the sun is brought nearly in contact with the horizon the vernier may be clamped to the arc by the screw on the under side. The contact is then made with great precision by moving the tangent screw (*T*, Fig. 3) found on the forward part of the vernier.

The reading on the arc where the arrow on the vernier cuts it will be the sun's observed altitude. If the mark on the vernier does not coincide exactly with a division of the scale on the arc, take the reading from the nearest mark to the *right* of it. Then look along the graduated scale and see where the divisions on the two scales exactly coincide. Take these odd minutes and add them to the first reading on the arc for the altitude. The time by chronometer may be taken at the instant of contact, if desired.

The observer should begin his observation for meridian altitude 10 or 15 minutes before noon, and carefully watch the sun as it rises to obtain its highest altitude at culmination, which will be 12 o'clock, noon, local apparent time at ship. The sun will then bear due north or due south, according to one's position.

The observed altitude must be corrected, for various causes, to obtain the true altitude. The corrections to be made are for index error (if any), semi-diameter, dip of the horizon, refraction and parallax. The meanings of these terms follow: Index error refers to any error known to exist in the sextant used. As the sun's lower limb has been observed, the semi-diameter, or half the altitude of the diameter of the sun, must be added to get the altitude of its center. The sun's semi-diameter is greatest in December, when the earth is nearest to the sun, it then being 16′ 18″, while it is the least in June, when the earth is farthest from the sun, it then being 15′ 45″. However, 16 minutes is near enough to be used for all practical purposes. The sun's semi-diameter is given for noon each day in the Nautical Almanac.

The tables, hereafter referred to, are to be found in Bowditch's Epitome of Navigation. The dip of the horizon is the angular difference be-

JUNE. At Greenwich Mean Noon.

Day of the Week	Day of the Month	THE SUN'S Right Ascension	Semi-Diameter.	Declination.	Diff. for 1 hour.
		h. m. s.	′	N. ° ′ ″	″
Wed.	1	4 33 50	15 48	21 58 30	20
Thur.	2	4 37 56	15 47	22 6 42	20
Fri.	3	4 42 1	15 47	22 14 32	19
Sat.	4	4 46 8	15 47	22 21 58	18
SUN.	5	4 50 15	15 47	22 29 1	17
Mon	6	4 54 22	15 47	22 35 41	16
Tues.	7	4 58 29	15 47	22 41 56	15
Wed.	8	5 2 37	15 47	22 47 48	14
Thur.	9	5 6 45	15 47	22 53 16	13
Fri.	10	5 10 53	15 46	22 58 19	12
Sat.	11	5 15 1	15 46	23 2 58	11
SUN.	12	5 19 10	15 46	23 7 13	10
Mon.	13	5 23 19	15 46	23 11 4	9
Tues.	14	5 27 28	15 46	23 14 30	8
Wed.	15	5 31 37	15 46	23 17 31	7
Thur.	16	5 35 46	15 46	23 20 7	6
Fri.	17	5 39 56	15 46	23 22 19	4
Sat.	18	5 44 5	15 46	23 24 6	3
SUN.	19	5 48 15	15 46	23 25 28	2
Mon.	20	5 52 24	15 46	23 26 26	1
Tues.	21	5 56 34	15 46	23 26 59	0
Wed.	22	6 0 43	15 46	23 27 7	0
Thur.	23	6 4 52	15 45	23 26 50	1
Fri.	24	6 9 2	15 45	23 26 8	2
Sat.	25	6 13 11	15 45	23 25 2	3
SUN.	26	6 17 20	15 45	23 23 31	4
Mon.	27	6 21 30	15 45	23 21 35	5
Tues.	28	6 25 39	15 45	23 19 15	6
Wed.	29	6 29 47	15 45	23 16 30	7
Thur.	30	6 33 56	15 45	23 13 21	8

Declination Increasing: ^ Dec. Decreasing: v

Fig. V.—Page from the Nautical Almanac, showing declination for the month of June, 1910. In the first example given the declination for the 18th is taken for Greenwich mean noon, to which is added the difference for five hours, as the ship's position, approximately 75° West, is five hours later than Greenwich noon, the declination being on the increase and the hourly difference being shown in the last column.

tween the true horizon and the horizon as seen by an observer, and the amount depends upon the height of the observer's eye above the level of the sea. This correcton, found in Table No. 14, is always to be subtracted from the observed altitude.

Refraction is the downward deflection of a ray of light entering the atmosphere of the earth, causing a celestial body to appear higher than it actually is. Refraction changes as the condition of the atmosphere changes, as shown by the thermometer and barometer.

It is greatest when the observed body is near the horizon, as, with the sun or moon near rising or setting, refraction amounts to two-thirds of a degree. This is more than the diameter of either body, which is about one-half a degree. Refraction grows less as the altitude increases. Table No. 20 gives the correction of the sun's apparent altitude for refraction and parallax. This correction is always to be subtracted from the altitude.

Parallax is of little consequence in ordinary practice at sea, and the correction for it is usually omitted. If used, it is always added to the altitude, being greatest when the observed object is near the horizon and disappearing when the body is near the zenith.

These corrections may each be applied separately to the observed altitude, but a simpler method is to subtract the corrections for refraction and dip of the horizon from the semi-diameter and add the result to the observed altitude. Take the example given before to see how this works out:

June 18, 1910.

Semi-diameter from Nautical Almanac		+ 15′ 46″
Refraction and parallax for 79°, Table 20	—9″	
Dip of horizon, height 10 ft., Table 14	—3′ 06″	
	3′ 15″	3′ 15″
To be added to observed altitude		12′ 31″
Observed meridian altitude		79° 37′ 00″
True central altitude		79° 49′ 31″
		90° 00′ 00″
Zenith distance		10° 10′ 29″
Sun's corrected declination from N. A.		23° 24′ 21″
Latitude at noon		33° 34′ 50″

Here is an example where the latitude is north and the declination south. On January 1, 1911, the meridian altitude of the sun was 38° 02′ bearing South. Approximate longitude 74° 00′ West. Height of the eye, 10 feet.

Semi-diameter from N. A.		+ 16′ 18″
Dip of horizon, Table No. 14		— 3′ 06″
Refraction and parallax, Table No. 20 B		— 1′ 08″
Correction to be added		12′ 04″
Observed meridian altitude		38° 02′ 00″
True central altitude		38° 14′ 04″
		90° 00′ 00″
Zenith distance		51° 45′ 56″ North
Corrected declination from N. A.		23° 05′ 36″ South
Latitude at noon		28° 40′ 20″ North

Here is an example in south latitude. On October 10, 1910, the meridian altitude of the sun was 61° 30′ bearing North. Approximate longitude, 45° West. Height of the eye, 18 feet.

Semi-diameter from N. A.		+ 16′ 03″
Dip of horizon for 18 feet		— 4′ 09″
Refraction and parallax, Table 20 B		— 0′ 28″
Correction to be added		11′ 26″
Observed altitude		61° 30′ 00″ North
		61° 41′ 26″ North
		90° 00′ 00″
Zenith distance		28° 18′ 34″ South
Declination from N. A.	6° 24′ 41″	
Cor. Long. 45° W. = 3 hrs.	+ 2′ 51″	
	6° 27′ 32″	
Declination		6° 27′ 32″ South
Latitude		34° 46′ 06″ South

The navigator in daily practice finds this correction nearly constant; so, instead of adding the correction to the altitude, he subtracts it from 90°, thus: 90°— 12′ = 89° 48′. Then he can at once subtract his observed altitude from 89° 48′, which gives him the zenith distance:

		89° 48′
Observed altitude		79° 37′
Zenith distance		10° 11′ N.
Declination		23° 24′ N.
Latitude		33° 35′ N.

(To be continued.)

Southward Under Power and Sail by the Inside Route

PART II—FROM THE HEAD OF CHESAPEAKE BAY TO BEAUFORT, N. C.

By A. M. FARRELL

WE were glad to get into Chesapeake Bay in order to do some sailing again. Getting up early the next morning, everyone was in good humor, and, notwithstanding a head wind, we sailed some 30 miles. About three o'clock in the afternoon it blew up from the southwest, but we took in two reefs and sailed through it. It died out shortly, however, and, shaking out, we set full sail again and covered a good distance, anchoring off Greensbury Point for the night. We didn't care to attempt strange water at night, and, with the small crew we carried, it was impossible to sail day and night.

The next morning we started out with a head wind and fought it until evening of the following day, when we reached Point Lookout. Here we tried to fish before eating, thinking we might have a fish dinner; but, without the right kind of bait, we did not even get a nibble. We were determined, however, to have fish for dinner, and, seeing a fishing boat near, we hailed them and caught enough with a silver hook to satisfy our needs. When we reached Point Lookout we anchored for the night. There was a steady southwest wind, which made it quite uncomfortable for sleeping, as the boat was pitching into the head sea throughout the night. At daybreak we started again, and by sunrise had finished breakfast. It soon grew dark, however, and began to thunder and lighten, with indications of a blow from the northeast, which was the direction we wanted it from, though we were not very anxious for blows, as it kept the three of us busy; yet we preferred them to the continual head wind. After an hour it looked as though we would soon get it, and we prepared for it by taking two reefs in our mainsail. It was not long before we got the first puff, which knocked us down to the coaming, and we brought her up in a hurry. In a few seconds the second puff, which is generally the strongest, hit us; but we had the sails shaking. It then began to blow steadily, and, trimming our sails, we began to travel. The force of the wind was about 35 miles, and we began to pick up several steamboats that had passed us earlier in the morning on their way to Norfolk. We had to keep our eyes open here, as there were many fish nets around, some of them being a mile long. Instead of having a drifting seine, as on the Delaware, they use a long net with a round pocket at one end, so that when the fish hit the net and turn to pass around it they get caught in the pocket.

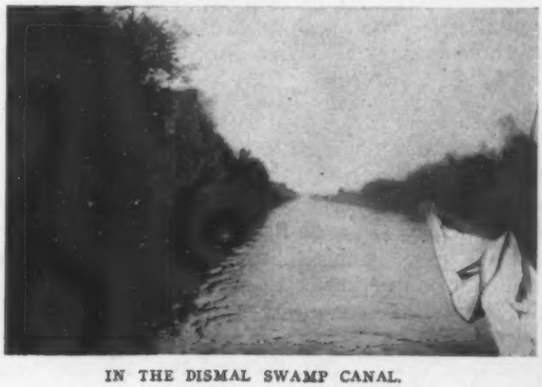
After passing between possibly fifty of these nets without much trouble, only knocking down a few of the stakes, we soon got into clear water. We passed a number of fishermen working at the nets, and they had about a dozen negroes in the pockets scooping out the fish. The day was cold, we being hardly comfortable with sweaters and heavy clothes, and our sympathy was with those wet negroes, whose teeth were chattering as they stood in the cold water handling their scoop nets.

Soon after five o'clock we came up to Thimble Shoal Light and could then see Fort Monroe. We now began to feel in better spirits, knowing that our next stopping place—Norfolk—was near at hand. About dark we entered Hampton Roads. Here we found twenty-one United States battleships anchored in a row, all illuminated, and a prettier spectacle cannot be imagined. We cast anchor among them, feeling that we were well protected from everything except storms, the northeaster that had carried us over a hundred miles that day and brought us to the end of Chesapeake Bay being still blowing.

We were anxious to reach Norfolk; so, making an early start the next morning and passing alongside the American fleet, we soon reached the Elizabeth River, down which we proceeded about 5 miles, anchoring off the Norfolk Yacht Club. The doors of the club were opened to us, and we were shown every hospitality by the members. We had company here in the shape of several yachts on their way home from Southern waters (where they had spent the winter) waiting for good weather. Their crews all thought it odd for us to be going South at this time of the year, as they always go about September and October. We gathered all the information we could about the rest of the route, and some of the yachtsmen who had just returned from as far as Palm Beach said we would have to take a pilot in several places further south, as it was unsafe to navigate without the aid of someone who was ac-

FIRST LOCK IN THE DISMAL SWAMP CANAL. LOCK OPEN TO ADMIT US.

IN CHESAPEAKE BAY, SHOOTING AT DUCKS.



IN THE DISMAL SWAMP CANAL.

ON THE BEACH AT OCRACOKE WITH A NEW FRIEND.

quainted with those waters. Up to this time we had gotten along without help by following the charts very closely, and we did not relish the suggestion of taking a pilot on board.

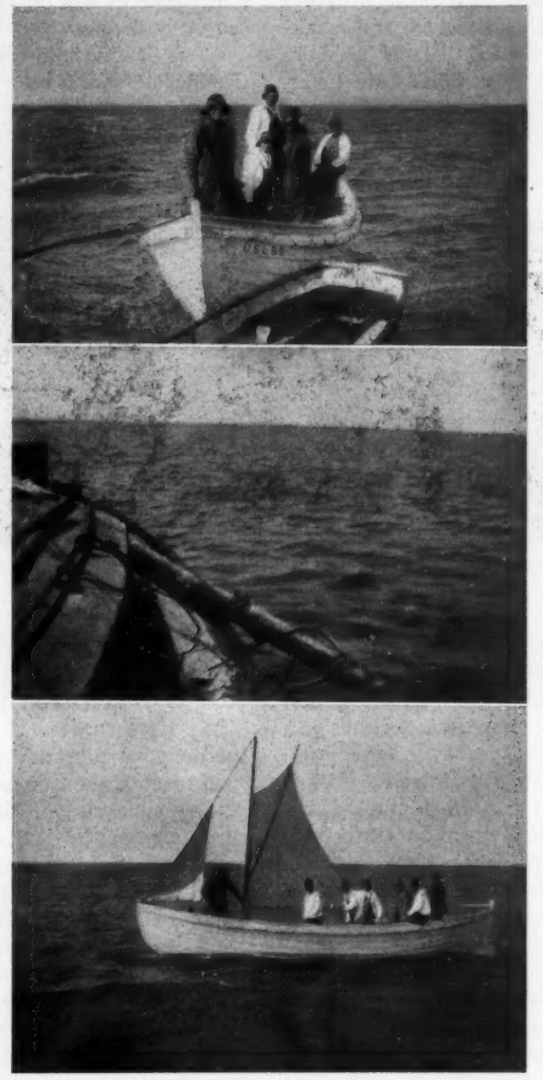
Our stay in Norfolk lasted three days, during which time we saw the town from one end to the other. Here we procured additional charts to guide us as far as Savannah (the next branch of the Hydrographic Office).

We started southward for the next stage of our cruise on the same day that the other boats left for the North. We had a head wind in the Elizabeth River, and, not having far to go in the southern branch before we reached the Dismal Swamp Canal, we went under power. We had a strong tide with us, and before noon we were under way in the canal. In this canal we had to pass three locks, and, as we entered the first one, there was another boat going in the same direction; so we locked down together. Some of these locks are about 300 feet long by 30 feet wide, and a number of small craft can lock through at the same time. At the end of the canal there was a pretty river, whose name is not given on the charts. This river is very crooked, its banks being lined with trees, which project out and, in some instances, meet and afford considerable shade. We had only five miles to go before reaching Elizabeth City, and in a short time we were tied up to the wharf and had proceeded ashore for fresh supplies and gasolene, as our tanks were pretty low.

Leaving Elizabeth City, we entered the Pasquotank River. Here we got sail on her again for the first time since leaving Chesapeake Bay, and, having a light southeast wind and our course to the Albemarle Sound being S. W., we had a beam wind for about thirty miles, or until we reached Croaton Sound. When we entered this Sound the wind shifted directly to the south, and, our course being in the same direction, we hauled the sheets aft and began to beat, with the wind steadily increasing. In these sounds you have plenty of water, though there are occasional sandbars, which, as far as we could see, were correctly marked; and by following the charts we found no difficulty in picking up the lighthouses and buoys, one after the other. I venture to say that any landsman can find his way in these waters by having a good compass and steering according to directions on the chart. We entered Pamlico Sound at sundown, and, after anchoring off Duck Island for the night, we started to fish. Here is where we were successful, and, after catching several good-sized bluefish and trout, we had an extra dish for dinner. We started out the next morning with the same head wind, and, after making several long tacks with a heavy sea against us and not making very much headway, we anchored early in the evening, and did some more fishing. In about an hour we found we had an assortment of fish that would last as long as our ice would. Fishing is great sport when they are biting, but when you have to sit in the hot sun all day and only catch a few fish there is no pleasure in it. Up to this time we had not caught a single catfish, and, in fact, did not know they were to be found in these waters until a fisherman told us so. Down South the fisherman must always have an ample supply of bait, as he is always sure to waste a lot on these worthless fish.

After having an early dinner (which we had a hard time to cook, on account of the boat pitching and rolling so that the pots would not stay on the stove unless we held them), and while talking over our trip in general, we heard some voices outside. We all thought it was imagination and sat dumbfounded, as we were some distance from shore and thought no one was around to bother us until we heard these coarse voices call out, "Ahoy on the yacht!" It took but a few seconds to tumble out on deck, and we saw a small boat with several men in it luff up under our stern and throw us a line, which we made fast to our boat. We soon found that they were the life-saving crew from Cape Hatteras, and they told us they thought we were in trouble and signaling for help, as our flag on the mast was very old and, from a distance, seemed to them as a flag of distress. It was only the flag of the Jamaica Bay Yacht Club, however, which had been exposed to the weather and was gradually whipping to shreds. The crew seemed to be very good fellows, and did not mind having come out on a false alarm. Their boat was nothing but a large-sized rowboat with a sail in it, which they could take down in a few seconds by unstepping the mast. These lifeboats are equipped with a number of life preservers, buckets and an ax, etc. After a talk, and finding that we were all right, the crew put up their sails and started back for their station. About dark that night the wind and sea died out somewhat, and, after having a quiet night's sleep, we weighed anchor early the next morning. As we did not want to bother the life saving crew again, we lowered the flag. Our next stop was to be Beaufort, N. C.; but, on looking at the chart, we found we were off a small town south of Cape Hatteras called Ocracoke, which seemed to be something of a town. We decided to make for it, as our oil was low, owing to our using the engine a good deal to help us against the head wind. We had some fine sailing for a few hours, when a southwester struck us and we lowered away to reef and then sailed through it. We were only five miles off Ocracoke, but had a head wind to get there, which made it anything but pleasant, as the sandbars around here make difficult sailing and cause a lot of tacking in keeping the channel, which is very narrow. Once in it, we had to keep in line with two black post lanterns as a range to the center of the channel. Picking up one range light, which we could see very plainly, and then another object beyond it, which we thought was the other lantern, we kept both in line and went ahead, when suddenly our centerboard scraped bottom, and, on trying to come about immediately, we found ourselves hard aground.

We dropped the sails and began to work her off with poles,

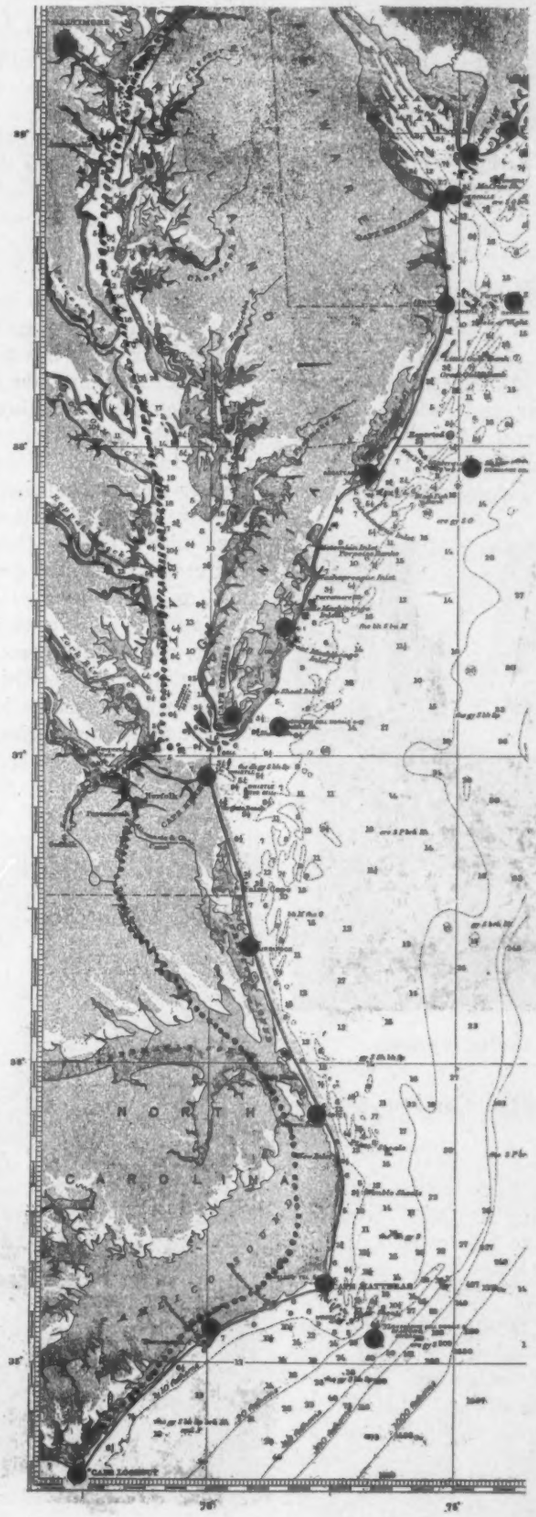


THE OCRACOKE CREW ARRIVING TO HELP US OFF THE SAND BAR.
THE WRECK OF THE JIGGERMAST AT OCRACOKE.
THE LIFESAVING CREW LEAVING US.

But the wind was so strong that we could not budge the boat. Taking down our yawl boat from the davits and carrying our anchor out about a hundred feet, we then began to take in on it with the winch; but it would not bite and came up with ease, there being sea grass growing on the bottom, causing it to slide over. We then backed the engine and endeavored to shove off again, but she was as if held in a vise, hard aground. We tried various ways to float the boat, without success, and, after some time had passed, we noticed a small sailboat coming in our direction. In a few minutes we could see that it was the lifeboat of Ocracoke Life Saving Station, with the crew on board. They came aboard us, and the captain took charge, and we all did as he commanded. He told us that every strange craft that tried to make Ocracoke struck this bar, not only in a blow, but in the best of weather. We were only 30 feet from the channel, so the captain ordered the jigger to be put up to swing the stern around. After the sail got the full force of the wind on it we heard something crack, but thought it was merely the ropes slipping through the blocks, when suddenly our jigger mast fell, tearing up the deck and falling on the coaming of the cockpit, causing a little damage. There was an awful strain on the mast, because the boat was at a standstill, and if we had been moving it would never have gone. We saw that the sails could not be used, and, our engine not being strong enough to move her, several of us got overboard and raised the bow, shoving it from one side to the other. In this way we soon made a cradle in the sand and gradually worked her into deep water. Pic had by this time started the engine, and it was then a scramble for all of us to climb on board. While we were now floating again, we had to lay up to repair the damage done by the jigger. The captain of the crew steered us through the channel to a good harbor near the life-saving station, where we began our work on the mast. The life-saving crew was composed of an accommodating lot of fellows, and they offered to assist us in any way they could. We unstepped the broken foot of the jigger mast and restepped the mast, making it 2 feet shorter, as it had broken off even with the deck. We, therefore, had to take in a reef in the sail, which we carried until we reached home.

While lying-to we did some more fishing, and were very successful, having all the live bait we required. In a small town like Ocracoke everything is very handy, the stores being only a few steps from each other, and we laid in some fresh provisions, new-laid eggs, and some spring chickens.

Repairs completed, we intended leaving in the morning for Beaufort, N. C.; but the day prior to our grounding our chart had been blown overboard. We tried to procure one from the mail boat which comes from the mainland every day; but the captain, knowing the coast very well, never used a chart, and did not have one. He told us that Core Sound was a hard place to go through even with a local pilot, and a stranger should always take one. We did not mind that, however, as we knew that if we could get a chart we could get through some way. After trying several places, we finally found one on board of a boat that sells gasolene to the fishermen; but the owner could not let us have his chart, as he had to use it all the time. He let us make a copy of it, however, so we got all the information we required.



ROUTE OF ALGA FROM CHESAPEAKE BAY TO BEAUFORT, N. C.

We left Ocracoke the next morning with the same head wind. It looked as if luck was against us ever since leaving Rockaway Beach, for we never had a day of fair winds unless it was in a blow. We managed to reach Harbor Bar Light, the mouth of Core Sound, at sundown, and, entering the channel safely, we went about five miles before dark and anchored for the night. It was a beautiful moonlight night, and we remained on deck and talked until twelve o'clock about the hard and good times we had had since leaving home. We wondered if we could make Beaufort without a pilot, as we were now getting to believe that some of these fellows who had told us how hard and unsafe it was to pass certain places only talked to get their friends or themselves the job of piloting us through; but, having confidence in our ability to get through, we did not take their suggestions seriously.

The next day breaking clear and fine, we hoisted sails and had good sailing for about five miles until we came to a narrow cut, which was about 100 yards long and marked off with hand beacons. We had a hard time going through here, as we had a head wind and the tide was against us; so, starting our engine, we went under power until we were out of this cut and in sailing water again. It took us about half an hour to go that distance against the tide, for our engine was not strong enough to do better. About ten miles further on we reached another bad cut, which was also marked off with hand beacons. Some of these hands had been broken off by boats running into them; but the posts are all painted red and black, and, keeping the red to port and black to starboard, we went through as easily as if it were our daily task. Sailing was good for the balance of the day until we reached Pools Point, about dark. Here is where we entered what they call the Straits (which were anything but straight), and which were marked off with more

hand beacons. We then anchored for the night only five miles from Cape Lookout Lighthouse, which is a very powerful light, and, being but a short distance from the Atlantic, we could hear the waves breaking on the outside of the beach.

Beaufort was but 15 miles distant, and we were anxious to get there to meet a friend from New Orleans who was going to finish the trip with us, and who had been waiting there for us for over a week. We passed the Straits without any trouble and were soon entering Beaufort. This is a hard place to enter; but, as we started in, a small launch came from the opposite direction, and, playing "gallant" and letting her go first, we followed behind until we were in the channel and tied up at the wharf of the oil house, where we replenished our supply of gasolene, after which we anchored in the channel and proceeded to shore to find our friend.

We made inquiry at the hotel, but found that he had gone back to New Orleans, thinking we had passed Beaufort without stopping for him. We were not surprised at this, as we were many days behind our schedule.

(To be continued.)

The Motor Dory

A SMART AND SERVICEABLE CRAFT WHICH IS A DIRECT DESCENDANT OF THE HUMBLE BANK DORY OF THE GLOUCESTER FISHERMAN

By ALLAN O. GOOLD

ASK any seafaring man what he considers the most seaworthy small boat in the world and, in nine cases out of ten, his answer will be "the dory." For many years the bank dory has been the boat of the deep-sea fisherman, sharing this distinction only with the much larger and more powerful seine-boat of the herring and mackerel seiners. Any day one may see dories nested amidships on the bankers and the halibut schooners which ply out of the great New England fishing ports,

BANK FISHING DORIES NESTED ON A GLOUCESTER SCHOONER.

and they are to-day practically identical in build and model with the dories of generations ago.

The dory owes its enviable reputation as a sea boat to its peculiar model. It is unusually high-sided, the sides flaring decidedly from stem to stern. It has an overhanging or "sled" bow, and the raking transom, or "tombstone," as the fishermen call it, is narrow and wedge-shaped. Through two holes in the upper and wider portion of her transom is a stout rope becket, and through the stem a corresponding bail, or becket, is knotted, into which are hooked the masthead tackles, used in hoisting them out when launching or when taking them aboard the schooner. When in their places in the waist of the vessel the dories, with thwarts removed, are "nested" one within another in two piles, and are securely lashed to ringbolts set in the deck for the purpose. Sometimes a schooner will carry two nests of eight dories each, and the observer can estimate accurately the number of her crew if he remembers that the bankers fish two men in a dory, and on the off-shore or market fishermen each man goes in a dory by himself. The cook has no dory, he and the captain sailing the schooner while the men are fishing.

The bank dory has a flat bottom of 1-inch pine, strengthened by cross cleats, and her sides are made up of three streaks, lapped and clinch-nailed, without calking. Her frames or bottom-knees are widely spaced and are straight, for the common dory has no round to her side. She is a very strong and serviceable craft for her weight, and she is very inexpensive.

Once upon a time some wise man somewhere fitted up a bank dory with a two or three horsepower motor; and behold! there was created one of the most seaworthy small motor boats obtainable, as well as one of the cheapest. It is unfortunate that this man's name is forever lost to fame. He has had plenty of imitators, and countless motor dories all over the country noisily attest the importance of his experiment.

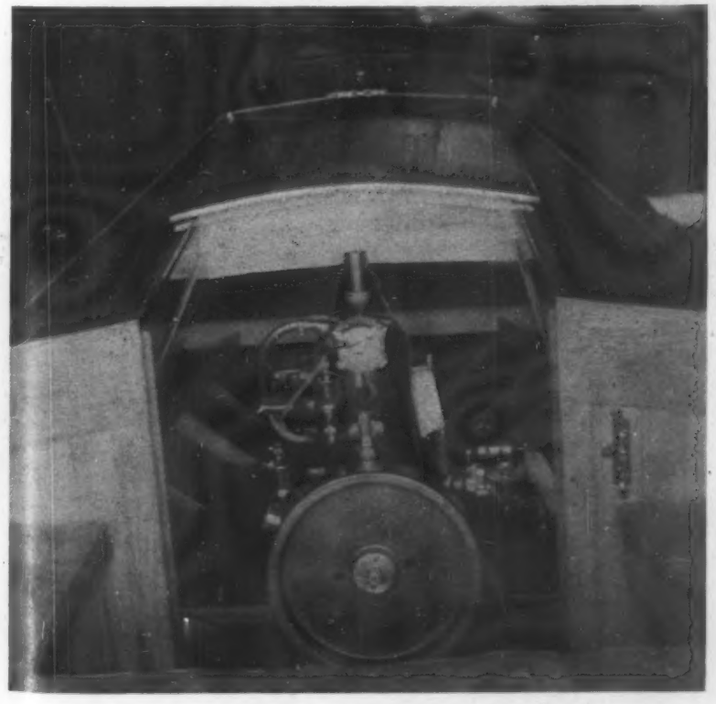
In certain localities improvements have been made from time to time upon the original bank dory, and flat-bottomed craft with round sides, reduced freeboard and modifications of the dory bow and stern have appeared. These were at first used for sailing purposes, being usually fitted with centerboards; but it was found that they were well adapted to power purposes, and through a process of evolution these boats have of late been more strongly built to withstand the vibration of the engine, their freeboard has been increased to keep out the flying spray, decks and coamings have been added for the sake of seaworthiness, and indeed, in some cases, nothing but the flat bottom is left to justify the name

TYPICAL CROTCH ISLAND DORIES USED BY FISHERMEN THE YEAR ROUND ON THE COAST OF MAINE.

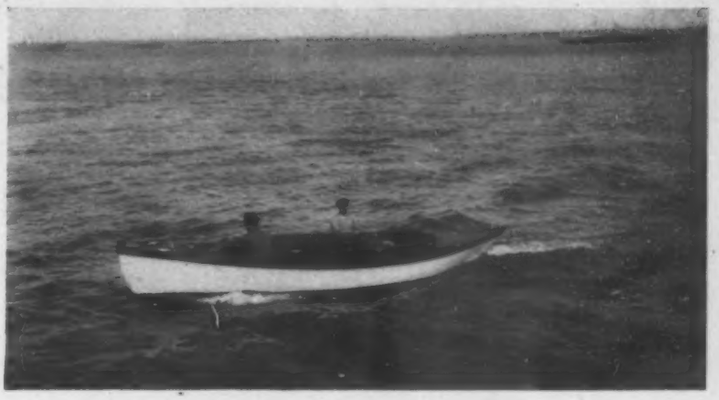
of "dory." Many of these types, however, retain the dory bow and stern, and, when well and substantially built, they make excellent boats either for fishing, for tenders to vessels, or for pleasure purposes. The United States departments use many of these power dories, the Revenue Marine and Lighthouse establishment in particular using them as tenders for the revenue cutters and lighthouse steamers.

These dories go under various names, such as Crotch Island dories, Seabright dories, Gurnet dories and Swampscott dories. They each have their distinctive features, but, in general, are constructed along more or less similar lines. In all of these boats the heavy flat bottom is the backbone of the entire structure. This is preferably made of oak, and should be, for a 24-foot boat, about 2 inches in thickness. One plank only is used, and this is usually about 13 inches wide amidships and tapered fore and aft. An oak stem is securely bolted to the bottom board and is rabbetted to receive the ends of the planking. At the stern a heavy oak sternknee is bolted to the keel and serves the purpose of a shaft log. The transom, also of oak, is fastened to this knee at the proper angle. The bottom board, or keel, is sometimes rabbetted out to receive the garboards, which are riveted or clinch-nailed in place through this keel rabbet. The frames are generally flat, and run across the keel in one piece from gunwale to gunwale. Where they cross the keel they are strongly nailed in place with galvanized boat nails. Bilge stringers may be used, but are not common in these boats. An oak skeg is usually attached to the keel aft, and, besides improving the steering qualities, it serves to support the foot of the rudder. An entire keel is an improvement in boats of the dory class, as it makes them steer better in a seaway. The planking is put on as in ordinary launch construction. Galvanized boat nails are used, clinched inside, and the boat is caulked with cotton in the usual manner.

Boats built as described above are somewhat less expensive than a regular round-bottomed launch, and are fully as strong and durable. While they are excellent sea boats, they, in common with all flat-bottomed craft, have a habit of "spanking" badly in a seaway. This is most noticeable when the boat is being driven into a head sea. When well designed, motor dories show very good speed.



METHOD OF HOUSING ENGINE IN POWER DORIES.



A PLEASURE DORY OF THE GURNET TYPE, SHOWING THE CHANGES WHICH HAVE BEEN EFFECTED TO ADAPT IT TO PLEASURE PURPOSES.

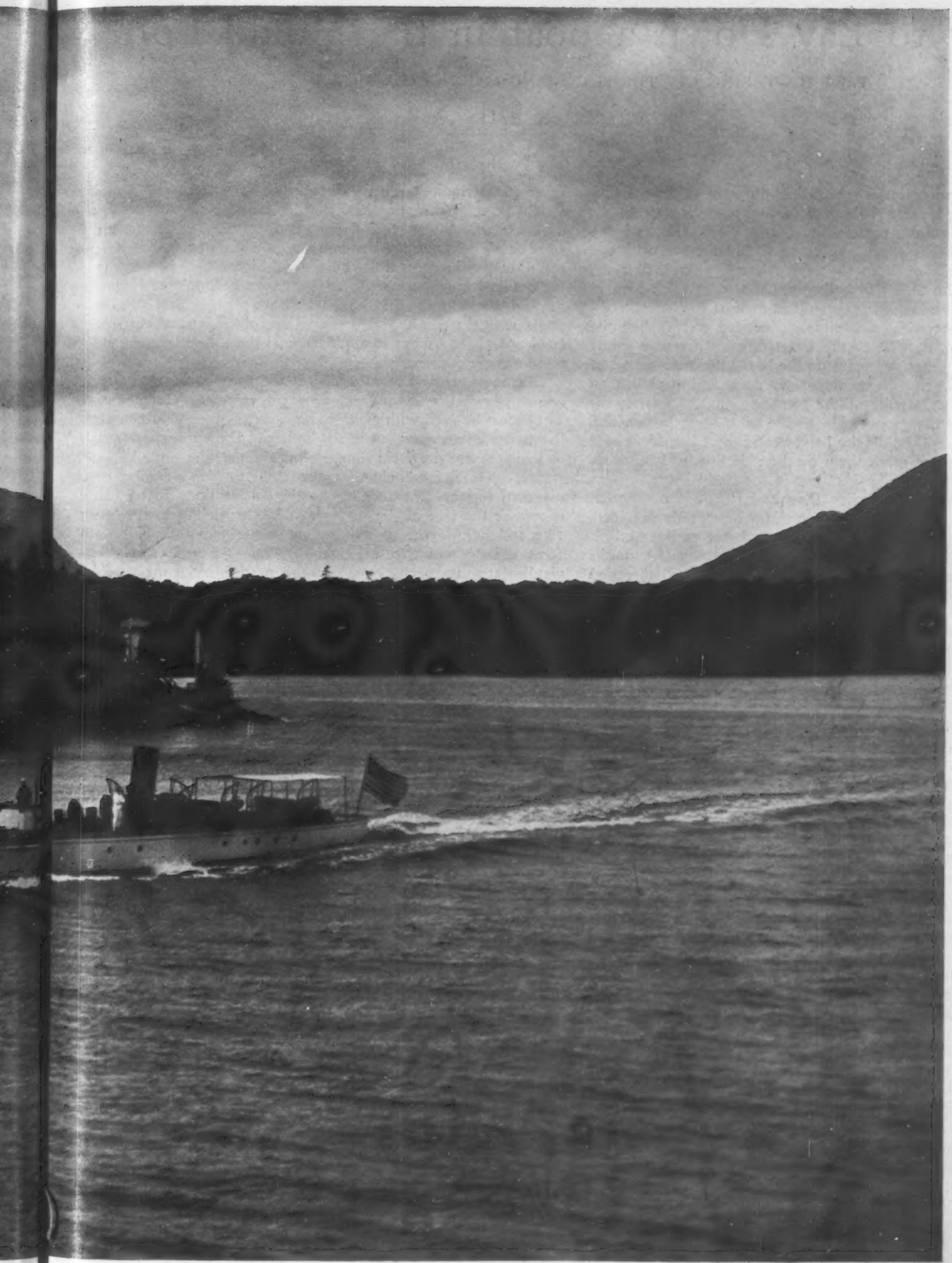
The Crotch or Cliff Island dories of Casco Bay are used for offshore fishing in the same manner as the well-known Hampton boats, and go and come in all weather, often being in commission the greater part of the winter. They are usually fitted with a four horsepower motor of the single-cylinder, two-cycle type. No reverse gear is used, and the fishermen become very expert in handling their boats in crowded docks, backing up and going ahead on the switch with ease and certainty. These boats are fitted with a short deck at either end and narrow wash boards. A small centerboard is often provided, and an emergency sprit sail is generally carried, furled upon its mast and spars upon the thwarts. The boat's interior is divided up into several fish boxes with removable covers. Steering is accomplished by means of a long wooden tiller with a comb on the after-deck. Rudders are often hung outboard, and are, in most cases, of wood. The motor is installed well aft, and usually is not given any protection from the weather. In some cases the after-deck is brought sufficiently far forward to cover the motor, access to the machine being had through a regular companionway with sliding hatch. The engine space is, in a case of this kind, bulkheaded off from the rest of the boat, ordinary matched stuff generally being used for the bulkhead. The after-deck is often canvas-covered and painted to make it watertight.

The exhaust pipe is usually carried up through the deck, and a common quarter-turn, facing outboard, is all the exhaust outlet that is required. A small, cheap muffler is generally used; but the working boats are always noisy, and often boats are seen with no muffling device of any sort in the exhaust line. The fisherman, for the most part, is a man of good, strong nerves, and can endure the peace-destroying fusilade of an unmuffled exhaust without a tremor, even though he makes runs of many miles each working day.

In winter, and during rain or rough weather at any time of the year, the fisherman covers his motor dory with a canvas spray cloth or tent. This covering is stretched over a ridgepole which runs from the boat's stem aft over a crotch, which gives at the after-end a fair amount of headroom. This spray cloth, which laces under the gunwale, stops just forward of the man at the helm, who, in order to get a clear view ahead, must stand up to see over the canvas. However, the boat is well protected from rain and spray, and the shelter afforded by the waterproof cover is very welcome when running to and from the fishing grounds in zero weather.

The motor dory occupies a field of its own. It is seaworthy and sufficiently fast, without being an expensive boat to build. Since economy is so pre-eminent a reason for the motor dory's existence, one is seldom seen elaborately finished or equipped with a motor of high power. It is safe to say, however, that, considering the cost, the motor dory gives as liberal a return in service as any type of small boat now in use.

STEAM YACHT CIGARETTE



ARETTE POINT ON THE HUDSON.

How to Lay Down a Boat in the Mould Loft

PART II.—TAKING OFF THE PLANK AND MAKING THE MOULDS

BY CHARLES H. HALL

Drawings by the Author

HAVING drawn in the rabbet-line, the next step, after the sheer line is faired in both Sheer and Half-Breadth Plans, is to lay it down in the Body Plan. To do this, take the pick-up stick with the sheer heights on it and the one with the sheer half-breadths on it to the scrive board. Mark first the stem height on the center line, then set the sheer stick parallel to the center line and with its bottom end against the base batten, and set the half-breadth stick with its inboard end against the center line batten, parallel to the waterlines. Bring the points marked No. 1 together and mark on the board the intersection of the two sticks. Then shift them to No. 2 point and mark it, then No. 3 point, and so on with all the forebody spots. Shift to the after-body, using the proper side of the center-line batten, and mark those spots. Take off the heights of rabbet line from base in the sheer plan and mark them on the side line, which, as we have seen, is the projected rabbet line in the Body Plan.

Now go to the Half-Breadth Plan and run in the different waterlines, using the spots for the endings as already obtained. Then pick up the half breadths, using a stick for each waterline, and go to the scrive board with them, marking the half breadths so found on the proper waterlines. Then run in the section ("bow and buttock") lines in the Sheer Plan and transfer their heights to the Body Plan.

We now have a series of spots in the Body Plan and are ready to run in the stations and the sheer line. Take up the center-line batten, as it will interfere with the battens used to run in the stations. Bend a batten around the points of No. 1 station, taking care to carry out the curve beyond the last spots, to prevent unfairness. Now sight the batten from both ends, and shift any parts necessary until you have a fair, smooth curve. Pencil it in lightly and shift the batten to No. 2, and repeat the process. If you find that a point of No. 1 has to be filled out, see that the corresponding part of No. 2 is filled out a little. Proceed thus with the other stations until all are drawn on the scrive board. A better plan is to have a batten for each station, leaving each one down and shifting it as necessary in fairing, but not drawing in any of the lines until later. Tack down a batten for No. 1, another for No. 2, and so on.

It will be found that some of the waterlines are too full at certain points and too slack at others, and changes must be made as indicated on the Body Plan. So pick up the half breadths from the Body Plan, transfer them to the Half-Breadth Plan, and bend battens to them, fairing as before. Then transfer the spots back to the Body Plan, shifting the station projections, as before, to fair out any "humps and hollows." This is a tedious process, but must be continued until the three plans agree, each with the others, and the form of the boat is one harmonious whole. When in doubt as to which way a point should be shifted, notice how the line worked on cuts the form of the boat. A waterline shows the form very clearly near the ends or above the bilge through the middle body, but is not so useful below the turn of the bilge amidships, where its plane cuts the boat's form at an acute angle. So a section line is useful through the bottom amidships, where its plane makes an obtuse angle with the plank, and is not so useful, as it runs out in the ends. A slight change in a waterline at the ends will make a decided change in the neighboring section lines.

Diagonals are so drawn as to cut the form as nearly at right angles as practicable, and are of great value in fairing a boat. They must be used with caution, however, as they may get peculiar twists as they run out in the ends and show unexpected flats or lumps where the form changes quickly, and the angle between station and diagonal changes also. To find the ending of a diagonal forward, measure the height (in the Body Plan) where it crosses the face of the stem and take this height to the Sheer Plan and find the corresponding point on the stem outline. Transfer this latter point to the Half-Breadth Plan and erect a perpendicular to the center line. On this perpendicular measure out the distance, taken from the Body Plan, from center line to face of stem measured along the diagonal, and the point found will be the required ending. The diagonals aft in this boat end on the center line, and the endings are found by taking the height from base line to intersection of diagonal and center line on the Body Plan, finding the corresponding point on the stern outline in the Sheer Plan and then transferring this point to the Half-Breadth Plan.

Having the boat faired and the three plans in agreement, we must now proceed to "take off the plank," as the general practice of naval architects is to draw the lines to the *outside* of the planking. As the frames and the outside edges of the moulds are to the *inside* of the planking, we must allow for the thickness of the planking in drawing the stations. Get this thickness from the midship section or specifications and set your compasses to it. Now set one leg of the compass to each spot on each station where it crosses waterline, diagonal or section, and strike with the other leg a small arc toward the inside of the boat. Take off the thickness of the plank sheer in the same manner, measuring down. Now bend a batten tangent to all these little arcs and draw the station line. This will be the shape of the mould at that place. (See Fig. 5.)

The bearding line must now be found. This is the intersection of the inside of the planking with stem, keel, etc., just as the rabbet is the intersection of those members with the outside of the planking. Measure the heights from base to where each

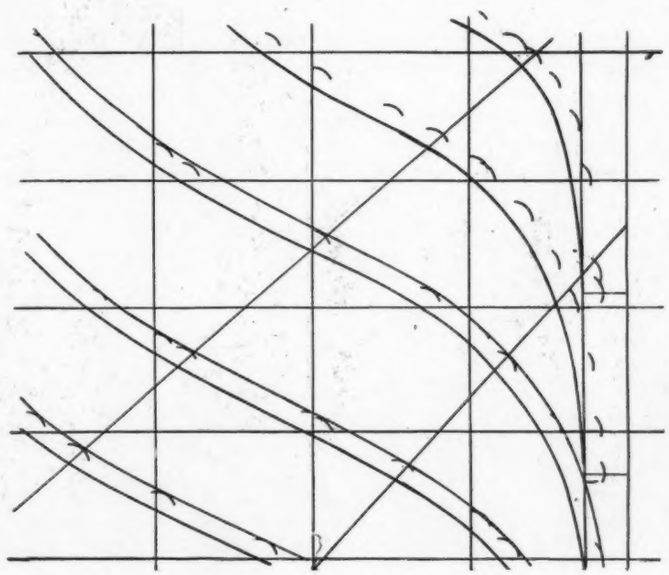


Fig. V.—"Taking off" the plank. Part of the after body shown.

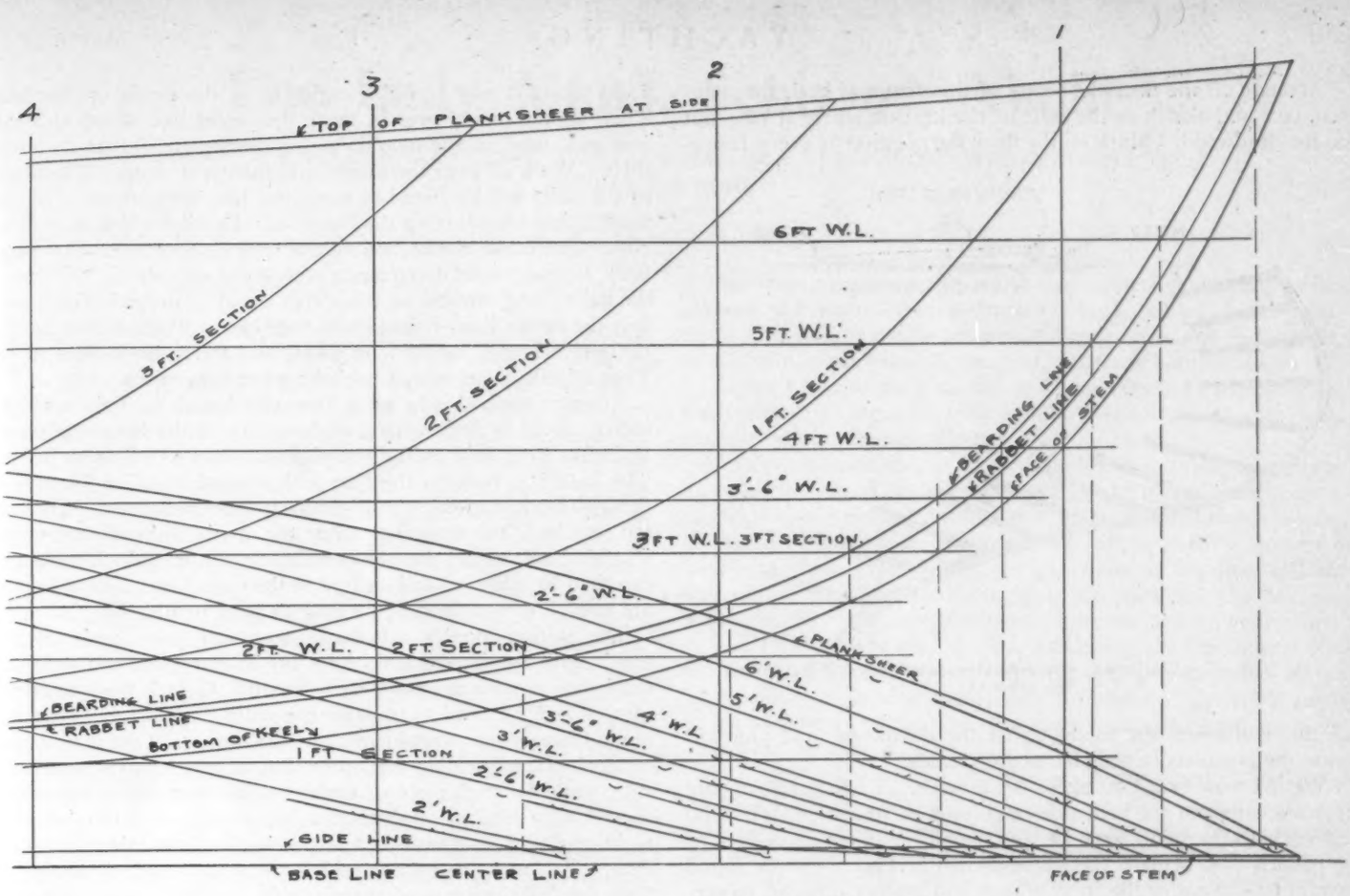


Fig. VI.—"Taking off" the plank and getting the bearding line forward.

station (inside of plank) crosses the side line, and set off these heights in the Sheer Plan on their proper stations. Go to the Half-Breadth Plan with the compasses set to the thickness of the plank and, placing one leg at different points along the end of deck line and of each waterline, draw the little arcs inboard, as before. Then run in new waterlines 3 or 4 feet long tangent to these arcs. Where these new waterlines cross the side line will be points on the bearding line and must be projected into the Sheer Plan, each point on its own waterline. (See Fig. 6.) The bearding line may now be drawn in the Sheer Plan. The bearding line is the inside line of the rabbet cut on stem and stern and runs along the top of the keel amidships. It is also the line of the heels of the frames. Where the sections sharpen toward the ends it is usual to fit deadwood deep enough to permit the heels of the frames to fay against it.

To find the necessary height for the top of deadwood, we must now find the "cutting down line," or "throat line." Set the compasses to the moulded size of frames at heel, and set off this distance up and in from the inside of plank on the Body Plan (see Fig. 5), running in short lines through the points thus laid out. The points where they cross the side line will be points on the cutting-down line. Transfer them to the Sheer Plan and run the line in. This line is necessary only at the ends, and shows the lowest point to which the deadwood can be cut down. It usually is left at least ½ inch higher than the cutting-down line.

If the boat is faired on the drawing board before laying down, the tedious process of checking one plan by the other may be eliminated and the Body Plan laid down at once, enough of each end of the Sheer Plan being drawn on the floor to enable one to get out the stem and stern moulds. In this case not so much room is required in the loft. The scrive board is prepared as before, the side line, waterlines, section lines and diagonals drawn on it and the spots for each station laid down directly on it, reading off the offsets and marking each point. It will be found more convenient to lay down all the forebody, first the sheer line, then the waterline, diagonals and sections, and then all the afterbody in like manner. The plank may then be taken off before drawing in the station lines.

Now take the dimensions for the center line of shaft, set them off on the proper stations and snap in the line. Lay out the top and bottom of shaft log from it, draw in the forward edge of sternpost and lay out the deadwood as shown on the construction plan. Measure the heights at which the shaft line crosses each station and transfer them to the Body Plan, marking them on the center line and numbering each. Now set the compasses to the half siding of the shaft log and draw a semicircle from each of these points. The shaft log must not be trimmed smaller than these lines; but this circular effect would not be shipshape, so fair the sections from the straight of the side lines to the circle.

It will be found that the rabbet line must be carried further outboard, where the shaft log enters the hull. Of course, the shaft log may be left square until the deadwood is up and then dubbed off to the required shape; but it is easier to work it nearly to shape while on the ground before it is fastened in place.

The sternpost must be swelled out the same way where the shaft pierces it, to allow plenty of wood outside of the stern tube. Be careful to make the boss large enough to give good seating to the stern bearing.

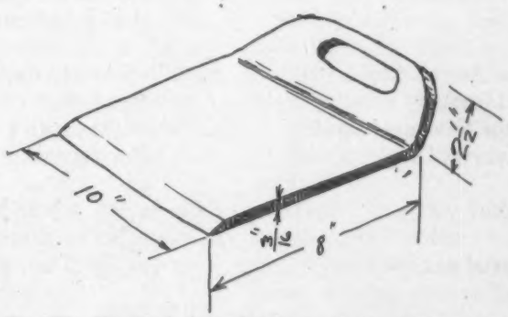


Fig. VII.—Use this device under the mould when driving nails.

Arrange on the floor the joints of the stem and keel, the stemson, etc., and sketch in the ends of the keelson where it runs out on the deadwood. Mark on the floor the position of every frame,

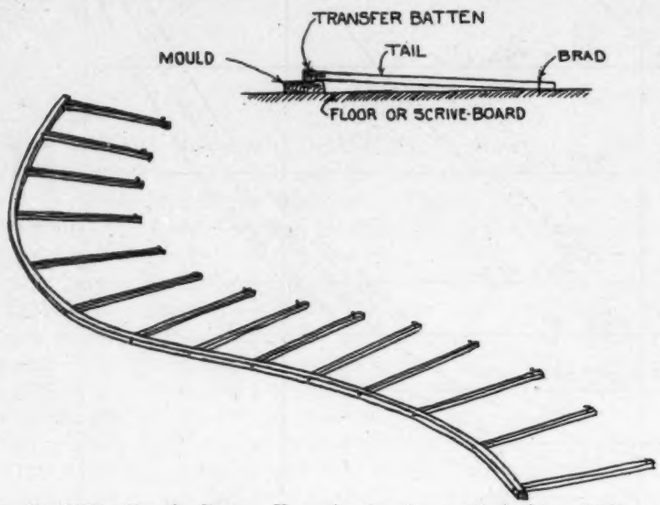


Fig. VIII.—Transfer Batten. Upper drawing shows method of transferring line to mould.

as this will affect the fastening of the deadwood, and you will want the positions to transfer to the moulds.

We are now ready to make the moulds. Each station mould is made complete for both sides and must be strong enough to do its work, so the joints must be well nailed. A piece of ⅛-inch or 3/16-inch iron bent to the shape shown in Fig. 7 will be found useful to slip under the joint of a mould when nailing it, to prevent the nails going into the floor and also to clinch them. Nail the pieces of the mould together before transferring the line to them.

The line may be transferred by laying wire nails an inch or two apart along it and at right angles to it, the heads on the line. Then lay the mould over it, mark the center line at top and bottom and stand on the mould, having secured it so that it cannot shift. Walk all over the mould and then take it up. The heads of the nails will be found to have dug into the soft wood of the mould, thus transferring the line to it. Pencil the line in at once. Now square the center line across to the other side very carefully, lay the mould down again with the other side up, having set the nails along the line on the scrive board again and taking care that the center line of the mould coincides with the center line of the scrive board, secure it in place, and tramp on it once more. Then take it up and trim it to shape when convenient.

A neater method is to use a "transfer batten." This is a light batten, about ⅜ inch square, with a piece of the same size about 15 inches long fastened to it at right angles every 8 or 10 inches. The batten is bent to the line and secured in place by a brad through the end of each "tail" furthest from the batten. The batten may be lifted enough to allow the mould to be slipped under it, and the line may then be penciled on the mould. The batten can then be taken up and shifted to the next line. These battens are useful in transferring the lines to stem mould, etc.

The station moulds are made heavy, as they hold the ribbands until the frames and beams are in place; but the stem and deadwood moulds are made of light stuff, ⅜ inch thick or thereabouts, and are used to transfer the outline, rabbet and bearding lines, frame spots, scarphs, etc., to the timber. One mould may be used to contain stem and apron, but it is better to have a separate mould for each piece of timber. The stem and stern moulds should have sections on them showing the shape of the timber at right angles to its curvature and the depth of the rabbet to be cut in it. It is usual to cut the rabbet at the ends slightly shallower than the full thickness of the planking, so that if a plank runs a little scant at the hood end it will not come inside of the stem. The outside of the planking is planed off after being fastened.

It is often a help to arrange the fastenings of stem, etc., on the floor and mark them on the moulds to transfer to the timber.

The Lubber

'TWAS on the float of a yachting club
I heard a yachting man
Repeat a refrain that gave me a pain,
And this is the way it ran:

"He said to haul on the Ace of Clubs,
Slack away on the Knave of Hearts,
Then take a hitch with the Queen of Spades,
Or the Ten of Diamonds parts."

"My friend," quoth I, "I thought I knew
The language of men of the sea,
But the rules you quote for sailing a boat
Are surely all Greek to me;

"For how can you haul on the Ace of Clubs,
Or slack on the Knave of Hearts,
And why do you say 'Hitch the Queen of Spades,'
Or the Ten of Diamonds parts?"

Then he blew a puff from his black cigar,
And he tipped me a knowing wink,
And he beckoned a waiter—who hovered near—
To ask what I'd have to drink.

"I sailed in the good yacht 'Never Mind,'
With a cargo of smokes and grub,
And the captain, he, was a man of the sea,
While I was a simple 'dub.'

"I knew that a yacht was hollow, of course;
But that's all the nautical lore
I had in my brain, though I'll tell you plain
That I was a shark at 'Draw.'

"But the captain vowed, in accents loud,
He'd teach me the things to do.
So a card he lashed to each rope and mast,
And I had to learn them, too.

"So poker to-day I never play,
But I think of that summer cruise,
And the ropes I say to myself this way,
For fear what I've learned I'll lose."

So he said, "Haul on the Ace of Clubs,
Slack away on the Knave of Hearts,
Then take a hitch with the Queen of Spades,
Or the Ten of Diamonds parts."

ROBERT SEAVER.

The Lady Maud, Schooner Yacht

A NARRATIVE OF HER LOSS ON ONE OF THE BAHAMA CAYS, FROM THE ACCOUNT OF A GUEST ON BOARD

By W. CLARK RUSSELL

CHAPTER IX—Continued.

THE morning of the fifth day, dating from the rescue of the shipwrecked people, broke in a dead calm. I came on deck about an hour and a half after the sun had risen, and found the sea like a lake, though heaving softly with a light swell that ran languidly along the path of the sun. Glancing aft, I saw a woman's figure standing at the bulwarks, leaning her face on her elbows, and looking into the water. I believed for the moment that it was Miss Tuke; but, hearing me, she looked round, and then I perceived that it was Mrs. Stretton.

In all those days I had only seen her once, and then I had caught but a glimpse of her down the skylight as she passed through the cabin. Consequently, I was very greatly astonished by the change that had been wrought in her appearance. She was no longer the white, haggard woman we had rescued. Pale indeed she was, but her cheeks had plumped out, her lips were red, the hollows under her eyes had filled up and lost their livid tint. Her fine black eyes flashed back the sunshine, and were beautifully clear and soft as a gazelle's, with a rich expression of melancholy. She wore one of Miss Tuke's dresses. I could not describe it for the life of me; but though a dressmaker would have given her more room about the bosom, her scissors could not have cut the dress more finely into the waist, and furnished a more free and sweeping in-curving down the back.

Indeed, I was so much surprised by the change, and by this apparition of a picturesquely handsome woman rising up, so to speak, out of the ashes of the deplorable figure we had rescued—shrieking as it swayed into the air over the boiling water, with its black tresses floating like a burst of smoke from her head upon the gale—that I fairly hung in the wind as she came up to me, with both hands extended, and could hardly answer her cordial greeting, melodized by the Irish accent I have spoken of; nor am I certain that I didn't blush.

"Why, Mrs. Stretton," said I, "if I had met you ashore in a crowd, I believe I should not have known you!"

"Oh, yes, I am recovering my health; I wish I could say my spirits," she answered.

"I hope you are pretty comfortable below?" said I.

"I meet with nothing but kindness," she replied, looking as if she would cry. "I thank God for finding such friends. I believe my sorrows would have broken my heart had I been thrown among rough people."

I said nothing, for in the face of a sorrow of this kind it is best to be quiet. To give her time to rally, I went to the compass, though there was no use looking at it, for there was not a breath of air, and the swell had swung the schooner with her head to the north; and then I went to the taffrail, where I had not stood a moment when my eye was attracted by a shark lying close under our counter, motionless as a log of wood, near enough to the surface to allow about an inch of his dorsal fin to fork out through the oil-like blue of the water, and to enable me to see his eyes, which I thought he raised with a most languishing expression, as though he said, "If you *would* but oblige me, and tumble overboard, my dear sir!"

This was a sight, I thought, that should divert the widow's grief. So I called to her: "Mrs. Stretton, pray come and look here. Here's something that should be feminine, for I reckon it wigs my sex, by the way it ogles me."

She came along quietly and looked over; but she had barely glanced at it when the creature slowly sank, but without any perceptible motion of the fins or tail, drawing down and fading until it was indistinguishable in the clear, azure, fathomless deep.

"Doesn't that prove what the brute's gender is? You perceive she vanishes at the sight of a woman," said I, wanting to see a smile upon my companion's face.

But my joke missed fire. Her thoughts were evidently fathoms below me. Just at that moment one of the mastiffs came up to us and rubbed her hand with its cold, moist snout. She cried out, and recoiled, with as much stately horror as ever I saw in a tragedy actress. Her cheeks were as white as the deck and her eyes on fire; but instead of laughing when she saw the dog, she put her hands to her face, and her bosom rose and fell vehemently.

"Get away, you brute!" said I, motioning the fine animal forward. "Mrs. Stretton, you are not the only person he has scared by his trick of shaking hands with his nose. That black snout of his once brought me from the stars with a run, and made me whoop like an Indian."

As I said this, a pretty voice behind me exclaimed, "What's the matter, Mr. Walton?"

It was Miss Tuke. I wished her good-morning, and explained that Mrs. Stretton had been frightened by the mastiff.

"He frightened me, indeed," said the woman, apologetically; and then, asking Miss Tuke what time it was, she said something about Carey waiting for her and went below.

"You choose an early hour for flirting, Mr. Walton," said Miss Tuke, gravely.

I asked her what she said. She repeated her remark.

"But don't you know," said I, "that I am no longer a sailor—that is, a man who will flirt with anybody? When I am in a flirting mood I don't choose widows."

"Don't you think her a good-looking widow?" she asked.

"Yes, I do; I think her a handsome woman."

"And considering that you saved her life——" said she, pausing.

I was not displeased. "We were looking at a shark," I answered.

"But she had her hands to her face and seemed very much agitated when I came on deck."

"Your kind heart is at fault for once," said I. "We had seen a shark. Let me find out if the creature is there still." I peered over the taffrail. "No, he keeps out of sight, afraid that nobody will fall overboard if he shows himself. Well, Miss Tuke, when I saw the shark I called to Mrs. Stretton, and she came and looked. The shark faded into the depths, but her imagination followed it, and went beyond it, as I may guess from her tears. Her thoughts were with her husband—the drowned body of her husband—when the nose of the dog touched her hand. The sensation of that cold nose upon her hand——"

"Oh, Mr. Walton, you have said enough! I am ashamed of myself. But you know I was joking."

"I hope you were," I answered, rather pointedly.

She blushed a bit, and said, "Don't you think Mrs. Stretton pretty?"

"Didn't I say yes just now to that same question?" I exclaimed, laughing out at her.

"If you had known how handsome she was would you have been more anxious to save her?"

I thought it best to answer with a nod, at which she laughed heartily, and said:

"Now I wonder what can have become of the shark?"

I took another squint over the stern, but there was nothing to be seen of the fish.

At this juncture arrived Sir Mordaunt. "Another dead calm," said he, sniffling and snuffling, and addressing Tripshore, who had the watch till eight o'clock. Then trotting up to Miss Tuke and me, he wished us good-morning. "D'ye know," said he, "I doubt if we shall get a chance to send our shipwrecked men home. The Atlantic appears to have become a Dead Sea as regards ships. Why do we sight no steamers?"

"We should be in the track of some of them," I replied. "But we shall stand a better chance of meeting vessels soon, if your skipper's navigation is correct, for the Trades can't be far off."

"My dear Walton," exclaimed Sir Mordaunt, "whenever you have occasion to mention Purchase you invariably speak as though you had not an atom of belief in the man's capacity."

"I have never concealed from you that my opinion of him is not a high one," I answered.

"Is it because he commands a yacht?"

"No, no. Tripshore is a yachtsman, for the matter of that," said I; "but I think very well of Tripshore as a seaman."

"Why don't you find out what time it is by the sun, as Purchase does, Mr. Walton?" said Miss Tuke; "and then you'll be able to tell us if the man understands navigation."

"I don't want Walton to do anything of the kind," exclaimed Sir Mordaunt. "For myself, I have full confidence in Purchase, and I should be very sorry for him to suppose he had given me reason to distrust him as a navigator, which would certainly be his impression, Walton, if he saw you taking observations."

"Well, so far as I am concerned," said I, "don't suppose that I want to check Purchase's working. The suggestion was Miss Tuke's, not mine. It's over ten years since I took an observation, and I am not at all anxious to begin again."

Here I thought of the shark, and, seeing the shadow of old Purchase upon the deck, I asked the baronet to hail him and ascertain if the fish was still astern. This was done, and the answer (delivered in a voice that seemed to come out of the middle of a feather-bed) came that the shark remained in sight.

"See how he follows us, Walton!" shouted Sir Mordaunt. "How the dickens does he keep himself moving? Mind, Ada! For God's sake, don't lean over the taffrail like that! Where's the fishing-gear? Let's kill him or put him to flight—get rid of him somehow. It's abominable to have him hanging dead in our wake, as though he smelled death in the air."

In a few minutes a big shark hook was brought, the chain hitched to about a dozen fathoms of stout line, and the hook baited with a lump of salt beef.

"Stand by, some of you, with a running bowline when he's gorged the hook!" said I, addressing two or three of the crew, who had come aft to give us a hand; and, so saying, I threw the great baited hook overboard.

Our taffrail was not very high above the water, and whenever the swell lifted the yacht's bows we were dipped into unpleasantly close quarters with the shark, who ogled us all in turn, as though his palate could detect no difference between such a delicacy as a hairy seaman with a face like leather and the soft and delicate Miss Tuke. It gave one a strange sensation in the midriff to meet that evil cannibal eye, and to reflect with what horrible celerity and fiendish absence of all compunctious visitings the owner of it would accommodate the biggest man among us with a free passage in his enormous hold.

The moment, however, the bait splashed in the water, the brute dropped astern two or three fathoms, as if affronted by so poor a mouthful when we had it in our power to oblige him with dainties so very much more nourishing and filling. Yet to a hungry shark even a lump of salt meat is better than nothing, though I could not help fancying that the beast divined our little game, or already had earned some experience of baited hooks, to judge from the manner in which he approached and smelled at the beef, and then recoiled from it, before making up his mind to bolt it.

I gave the hook another fathom of line, and this, veering the bait nearer to the shark, overcame his last lingering scruple. With a sweep of the tail that filled the water with bubbles and eddies astern of him, he rushed at the bait, turned over, and his pale blue belly flashed under the glass-clear surface. The next instant he had bolted the beef and was making off with it. But I had already taken a turn with the line over a belaying-pin, and the rope instantly tautened upon the monster and swept his huge shovel nose round after us.

"Tail on here, men!" I shouted. "Haul him along, and make ready with the bowline."

The scene then became uncommonly fine—five of us sweating and hauling upon the line at one end, and the shark furiously resisting us at the other. This was by no means my first shark, but none that I can remember ever showed the activity of this fellow. He gave us as much sport as a small whale would with a harpoon in its back. At one moment he would be on the surface, with his square nose hove out of the water, lashing up the foam as though a whirlwind were playing around him; then he would dive with such tremendous force that the whole five of us were swayed aft as though a locomotive had got hold of the line.

We were all laughing and bawling and blowing and hauling and raising a mighty hullabaloo over this business when I saw one of the mastiffs spring on to the taffrail and look at the shark. His eyes were on fire, his black jaws were quivering with excitement.

"Mind the dog! he'll be after the shark!" I shouted. But before the words were well out of my mouth, the noble animal, gathering himself together, launched into the air; and scarcely had the plash of his body reached our ears when the other mastiff, rushing past us like a flash of light, cleared the taffrail at a bound, and there were both dogs in the water, making for the shark!

Sir Mordaunt greatly prized these dogs, which were indeed valuable animals, and instantly sang out:

"Get the boat over! Never mind the shark! Save the dogs, men!"

"Put your helm down, man!" I shouted to the fellow at the wheel. "Stop the schooner's way! Don't you see we are going faster than those dogs can swim?"

Old Purchase, who had held aloof while we were playing the shark, now came sprawling over to the starboard quarter-boat, vociferating at the top of his voice, and greatly increasing the confusion. Meanwhile, and before the men had let go the line, I had thrown it over a belaying-pin, and was holding on to it, balancing myself, so to speak, against the weight of the shark, when, as I was eagerly looking at the dogs, which were now astern of the shark, that had been towed past them by the motion of the yacht, the line gave to my weight, and I fell flat on my back, the line heaping itself on my face and breast by the force of the involuntary jerk I gave it.

"The shark's off! The hook has carried away!" I roared. "Look out, now, or the fish will have the dogs!"

In hot haste I scrambled on to my feet and rushed to the taffrail. The schooner having come round to the wind, had brought the dogs abeam, and they were swimming around and around, about fifty yards distant from us, apparently in search of the shark, which had disappeared. Sir Mordaunt stood whistling to them with all his might; but whether because their blood was up and they wanted to fight the beast, or because they enjoyed their bath too much to be in a hurry to come out, they showed no disposition to obey their master's summons.

All this while the men were bothering over the boat. Something was foul, and Purchase's noisy bawling and showing off did

not help the fellows. There were enough seamen for that job, and I did not offer to help, but stood looking and looking, wondering where the shark was, and if he had made off for good, and if there were others about? Just as the boat splashed into the water I caught sight of a black fin sticking out of the varnished blue, about a pistol-shot from the dogs. One of them had seen it, and was making for it. I involuntarily tossed my hands up, shouting:

"See, Sir Mordaunt, there's the shark! If your men are not quick, he'll have that dog!"

The baronet rushed to the side where the boat lay and yelled to the men to make haste, stamping on the deck, and pointing, with a perfect frenzy of impotent anxiety.

But it was too late. In the eagerness of the noble animal to come at its foe, it was swimming so vigorously that its head was high out of water, and now and again it uttered a short, savage bark. But on a sudden the fin disappeared, and I could distinctly see the great fish sink by the length of a man's body below the surface. With a quick swing of the long tail the monster darted forward, its belly glistened as it came uppermost, and the dog, baffled by the sudden vanishing of the black fin, had turned its head toward us, when its body darted up out of the water as though it made a spring, the shovel nose of the shark overlapped the tawny hide, one terrific squeak came from the poor beast, with a most agonizing note ringing through it, and then fish and dog disappeared, leaving a great stain of blood-colored foam upon the water.

Miss Tuke shrieked out, and Sir Mordaunt stood as white as death. By this time the boat had got away, and a few strokes of the oars brought it abreast of the other dog, which was immediately collared and dragged over the side; and when presently the animal was handed up on deck it was trembling as never did I see a dog tremble before. It did not offer to shake its wet coat, but crouched, all steaming, under the after-grating.

This incident depressed us greatly. We stood looking in silence at the crimson patch upon the water that stayed in one compact stain like oil, whilst the men hoisted the boat, and the vessel's head was put round to her course.

"We'll say nothing about this to my wife," said Sir Mordaunt, addressing us all generally.

"Certainly not," answered Norie.

"If she asks where the dog is, of course we must tell her that it fell overboard," continued Sir Mordaunt. "But not a word about the shark."

"Not a word," said I. "Do you see anything of the brute, Miss Tuke? I would give something to avenge the poor animal."

We all peered, but sharkee had found as huge a meal as he could manage in the big dog, and had made sail. I hauled in the end of the line, and found that one of the links of the chain had parted, yet it had looked a very strong chain and stout enough to have swung three such fish aboard all at once.

"Anyhow, he has got the hook in his inside, Sir Mordaunt," said I; "and I am much mistaken if that's not a pill that will presently stop any more cabbaging on his part."

This, however, was no consolation to the baronet, who was greatly distressed by the loss of the dog, and who now lighted a cigar and smoked with a very moody face.

It was not, perhaps, very easy to feel sorry for my warm-hearted, hospitable friend, when I looked round upon his beautiful vessel and thought of the wealth that enabled him to possess and maintain such a luxury, and when I likewise remembered that his health was equal to the enjoyment of all the pleasures his fortune could command. And yet I could not think of his wife and believe that he was a happy man. He certainly did not look so now. I had never seen him more dejected, which made me think he was mixing up some foolish fears and fancies with the destruction of his dog.

On the other side of the skylight sat Norie, lazily surveying Miss Tuke, whose back was turned toward him, and occasionally glancing at me with his black, monk-like eyes, which looked as dusky as an Indian's in the shadow of his wide straw hat. From him my eye went to old Purchase, who had been stumping this side of the deck until I located myself upon it, when he immediately changed sides to get away from me. The old fool hated me, and was jealous of me, and I don't say I hadn't given him cause. Sweltering as was the day, he was dressed in thick pilot-cloth, and it was difficult to look at his sour and wrinkled face, and the dim eyes he cast sometimes upon the sea and sometimes upon the sails, without laughing.

The men had spread a short awning over the forecastle and were seated under it, busy on various small jobs; but where the decks were unshadowed the air was quivering with the heat that struck up from the planks, between which the pitch was bubbling; and the foremast and standing rigging trembled and waved in the haze, and seemed to be winding round and round like revolving screws. There was enough wind to keep the sea flashing, and most beautiful was the effect of the diamond-like scintillation upon the soft deep blue of the water. The sky was cloudless, but the rich azure of the zenith lightened as it drew toward the horizon, until it was nearly as pale as silver where it met the deep.

Suddenly the fellow who was steering called to Purchase. I turned, and saw him pointing over the starboard bow of the schooner; and, getting up to look, I immediately perceived the smoke of a steamer, but very faint and, like the bluish thread of a spider, leaning into the southern sky.

I went over to Sir Mordaunt and startled him out of a deep reverie by exclaiming that yonder was a steamer apparently coming our way. He jumped up, and was full of life in a moment.

"If that be so, Walton," said he, "we may be able to send the rescued men home."

This was my thought too. I fetched the glass and looked at the smoke, that presented a curious effect, owing to the refraction on the horizon, which threw the point whence it issued above the water. There was nothing as yet to be seen of the vessel, but by the inclination of the smoke and its steadiness I could not doubt that the steamer was headed our way. I continued watching her for about ten minutes, at the expiration of which time I could make out, with the help of the telescope, that was a very powerful one, the projection of a mast and square yards above the horizon: and soon after the whole hull drew up, though to the naked eye she was a mere speck upon the very verge of the mighty surface of blue sea, upon which the sunshine gleamed and faded with the sinking and rising of the light swell, like the fluctuating lustre in a moving sheet of shot silk.

It was now seen that she was heading dead for us, and Sir Mordaunt sent his niece below to tell Lady Brookes that a steamer was coming our way.

"How shall we convey our wishes to her?" said he to me.

"Purchase should know," said I.

"Purchase!" he called. "I want that steamer stopped, that we may ask her captain's permission to send the three men to her—that is, if she is going home. How shall we stop her?"

"How shall we stop her, sir?" wheezed the old fellow, giving me a piratical glance, as if he guessed there was some trick of mine in that question. "Why, it's a case of distress; so half-mast the ensign, jack down."

It was plain from this that the man knew nothing about ships' signals, for he should have flown colors signifying "I wish to communicate." But as a coalman, he probably had handled no other bunting in his life than his old ensign.

I ventured to suggest that the half-masted ensign with the jack down was a very extreme signal to display, and would make them believe our vessel in imminent danger.

"If you know better than me, Mr. Walton, perhaps you'll tell

Sir Mordaunt what *your* idea of signaling is," exclaimed the old man, stormily.

"Please yourself," I replied, preserving my gravity with an effort.

He began to address Sir Mordaunt, who cut him short by saying, "Hoist what you choose, Purchase; hoist what you choose, man; only see that you stop the steamer."

"I takes my orders from *you,* sir," replied Purchase, with angry emphasis; and forthwith bundled aft, and with great ostentation of gesture bent on the ensign and hoisted it, union down and half-mast high, making us appear in a terrible plight indeed. I nearly suffocated with laughter whilst watching his face as he gazed up at the masthead and shook a turn out of the flag halyards. If Sir Mordaunt had been capable of anger, I believe he would have been sharp upon me then; but his gentle disposition would never let him go beyond a remonstrance.

"My dear Walton, pray don't quiz the old man," said he. "He may have forgotten the art of signaling by flags."

"But couldn't he look in the signal-book to see what he should do?" I replied. "Suppose *me* ignorant, my ignorance goes for nothing. But *his* ignorance is ominous, even in so small a matter as bunting."

"Don't be afraid of him," said he, smiling. "I'll warrant you that he carries us home safe enough."

"Let us say nothing about that, Sir Mordaunt, for here's your wife."

He hastened to meet her and get her a chair, and in a trice was busy about her, pointing out the ship, adjusting a cushion to her back, and so on.

Miss Tuke came to me and said, in a whisper: "Do you remember, when the shark seized the poor dog, that I screamed? Well, my aunt heard that scream, and asked what it meant. I told her that one of the dogs jumped overboard for a swim, and that it had frightened me. I wish her health did not make these fibs necessary. But having told her this, I repeat it to you, that the fiction may be maintained."

"I am afraid among you all that you are spoiling your aunt," said I.

"It's my uncle's wish," says she, quickly.

"Well, then, *he's* spoiling her. If I had a nervous wife, I'd humor her nerves, I believe; but my humoring should be an education, too. A poor shipwrecked widow, like the woman below, should not scare her, and she should be able to see a shark eat a dog with just as much sensibility as you showed, and no more."

"That puzzles me rather, but it doesn't matter," said she. "At all events, I am sure you mean to compliment me. But you will remember that I am not an invalid, and I see that you still think of the poor widow."

I laughed outright, whereupon up marches Norie.

"What's all the fun about, Walton?"

"Don't be suspicious; we weren't talking about you," said I.

"Aren't you haunted by that poor brute of a dog?" cried he. "You were the cause of his death. You *would* fish for that shark, and by hooking him you excited the poor animal and made him jump overboard."

"Hush, pray!" exclaimed Miss Tuke, with a glance at her aunt.

He made a hideous grimace. "Heaven preserve me! I had clean forgot. Why, what a monstrous ship is that yonder! What is she? A man-of-war?"

She was approaching us very fast. Her hull was green and red, with a profusion of gilt that looked like gold-lace upon her bow. She was brig-rigged, with raking masts, and a square yellow funnel leaning aft, and apparently not far short of three thousand tons burden. She looked to be aiming straight for us, and the heavy sheer of her iron bows made her resemble a small island coming along. Two sparkling columns of water spouted up at an angle from each side of her stem, and their summits rose to close under the hawse-pipes; but as they arched over they broke into foam, and girdled the dark red bottom of the speeding hull with a band of snow, the ends of which met under her counter and streamed away in a glittering milk-white line across the blue sea until the eye lost sight of the delicate trail in the far distance.

When she was about a mile off her people hoisted English colors, and slowed the engines, as you could have seen by the drooping of the two shining bow waves, like the gradual turning down of a fountain. I have no doubt the sight of our flag made them reckon upon coming across something tragical; and through the glass I could make out swarms of heads along the line of bulwarks watching us.

"Stand by to hail her, Purchase," exclaimed Sir Mordaunt; and we all gathered together in a cluster abaft the main rigging to see her, whilst our men bustled about, letting go and tricing up, and dowsing canvas, that we might not swing out of ear-shot.

Now that we knew by her flag that she was English, and took it, of course, that she was going home, we looked at her with an interest which, if you have crossed the ocean and been for days without speaking a vessel, you will sympathize with. She made the picture of home rise before us vividly—the English Channel, with its beautiful shores; the yachts whitening the offing round the Isle of Wight; the crowded Downs, with low-lying Deal sparkling beyond the glittering shingle; the noble, busy Thames, and the garden-like lands beyond its banks. A group of men were upon her high skeleton bridge, and one stood at the extreme end of it, waiting to hail us when near enough. Presently the turn of her wheel by a couple of spokes canted her head, and she drew out slowly (her engines being stopped), and we watched with admiration, as she floated abreast of us, the gradual unfolding of her immense length, and the beauty of the whole picture of her red bottom coloring the blue water under her, and her green side full of flashing points of glass, and her massive stem standing up and overlooking the sea like a sheer cliff, whilst a trickle of gray smoke floated languidly toward the sky out of her short, leaning funnel, and her rigging veined the heavens like a spider's web. Her poop was of middling length, protected by a very low bulwark surmounted by brass stanchions and white life-lines, so that we could clearly perceive the crowd of saloon passengers, seated or standing, and watching us from under the awning. There were a great many women, dressed in all manner of gay colors, and Miss Tuke hit the character of the picture neatly when she said that those people looked like a garden party out on a cruise. Binocular glasses and telescopes bristled at us from all parts of the vessel. I could well imagine the wonderment excited by the inverted and half-masted ensign aboard a yacht with a crowd of smartly dressed seamen in her bows, well-dressed people aft, and the whole apparently coming up to a high standard of safety, luxury, and equipment.

"Schooner ahoy!" came ringing from the steamer.

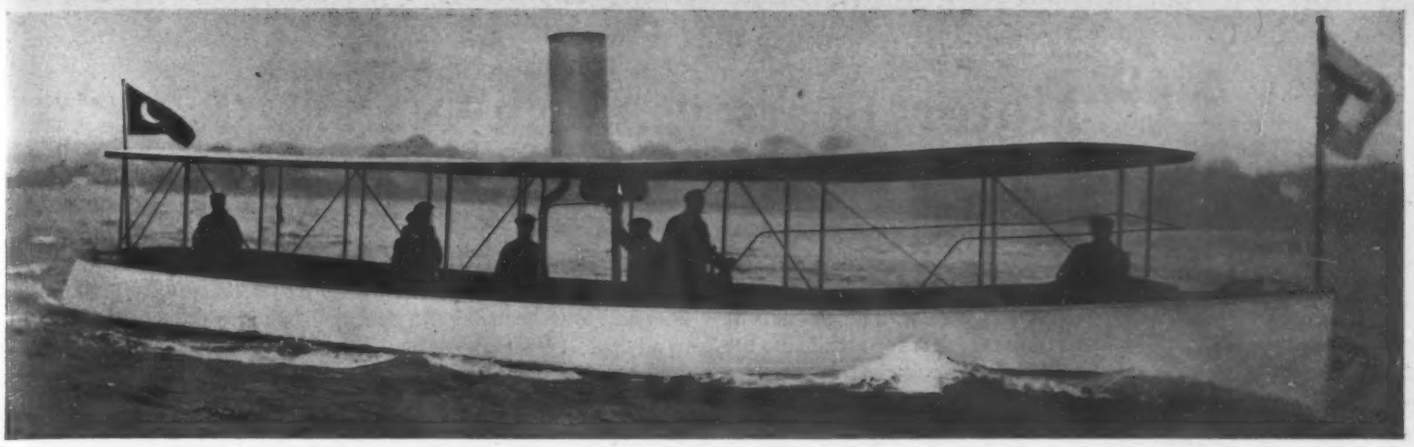
"Hillo!" bawled Purchase.

"Why have you that distress signal flying?"

"We've three shipwrecked men aboard that we took off a waterlogged bark," vociferated Purchase; "and if you're bound for Hengland, will 'ee let us send 'em aboard you?"

There was a curious movement among the people on the poop at this, and the man who had hailed us stumped along the bridge to where the knot of men were. I could not help thinking that the information they had got was a disappointment to many of them. A good deal of excitement had been promised by our flag, and Purchase's statement was no better than an anti-climax. Presently the man returned to the end of the bridge, and sang out, "We'll send a boat"; and after a short delay a boat swept round under the stern of the huge vessel, in charge of one of the mates—an individual in a long coat with gilt buttons and a square-peaked cap. A short ladder was thrown over the side, the boat

(Continued on page 256.)



A 63-FOOT STEEL MOTOR BOAT FOR CARRYING PASSENGERS ON THE TIGRIS AND EUPHRATES RIVERS.

Two English-Built Boats for Foreign Service

By FRANK C. PERKINS

THAT the gasolene motor has penetrated into the uttermost parts of the earth becomes every day more apparent with the receipt of reports of power boats being turned out for service in the most out-of-the-way places. As is natural, these boats are usually for commercial purposes, and they are rapidly opening up waters and trade routes that have heretofore been operated only by the most primitive means of transportation. From Central Asia, from the Congo in the heart of Africa, and from the streams of Western Australia, come reports of commercial boats being placed in service where heretofore only sail or oar was used, propelled by natives who clung tenaciously to the methods of the past. The majority of these boats for foreign service are built in England, though many of them are powered with American engines.

Among the boats that have recently been turned out for work in foreign countries are three large motor launches intended for passenger service on the Tigris and Euphrates Rivers in Asia Minor, a photograph of one of these being reproduced herewith.

These boats show many novel features, and were designed especially for the work for which they were intended. They are built entirely of steel, and are 63 feet in length over all, with a beam of 9 feet 6 inches, a moulded depth of 4 feet, and a draft of only 2½ feet, it being necessary to have a shoal boat to navigate these rivers. They are open launches, with a straight stem, low freeboard and a standing canopy top. The boats were turned out by the Woolston Works, of Southampton, England.

These launches are arranged in three compartments, for carrying first and second class passengers. In the first compartment, which is in the forward end of the cockpit, are accommodations for thirty first class passengers, while the after compartment is arranged for second class passengers, with a seating capacity of twenty persons. The 'midship compartment contains the machinery and steering and operating equipment.

The propelling machinery consists of two Thornycroft motors, developing from 45 to 50 horsepower each at a speed of 750 revolutions per minute. These engines are operated with kerosene oil, which is stored in a 60-gallon tank under the steering platform amidships, and is pumped to a working tank under the awning deck, from which it flows by gravity to the engine. A small gasolene tank is utilized for starting purposes, the kerosene oil being employed for continual operation.

These launches operate at a mean speed of 13.4 knots per hour, carrying a load of 3½ tons, representing passengers, baggage and fuel, and giving a total displacement of 12½ tons. The boats travel smoothly, with very little waste, even when operating under the highest speed, and are a distinct improvement over the steam service which was formerly maintained on these rivers.

A 30-FOOT PLEASURE BOAT FOR RUSSIAN WATERS

The other photograph which we reproduce shows an English-built launch for use at St. Petersburg, Russia, and vicinity, being owned by the well-known Franco-Russo Works. This boat is for pleasure purposes, and in many ways shows a striking dissimilarity to boats of the same size built for use in this country.

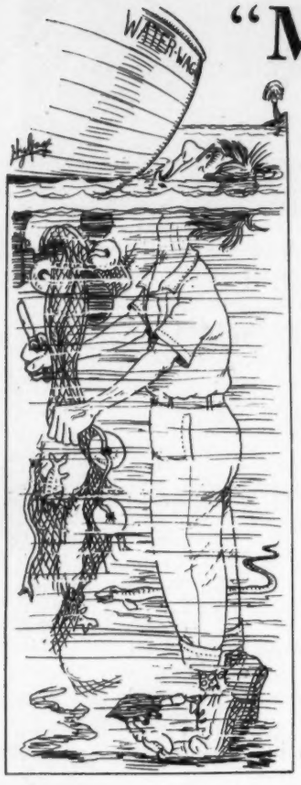
She is 30 feet in length over all, with a beam of 6 feet, and draws 22 inches of water, and is planked entirely of ma-

(Cont. on p. 254.)

A 30-FOOT INSPECTION BOAT FOR USE IN ST. PETERSBURG.

Motor Boats vs. Fish Nets

By HY. GAGE



"CARVED AND SLASHED AND CUSSED."

"MOTHER, may I go out to mote?"
"Yes, my darling daughter.
Be careful with the motorboat,
But don't go near the fish nets if you don't want to stand in the water up to your neck and carve the tangled mess away from your propeller."

And that's good advice, too, especially if you happen to be "moting" on the Indian River during the fishing season. Fish nets are the bugaboo of the motorboatmen along the Florida East Coast, and some even declare that the nets catch more motor boats than fish. Having been caught in their meshes upon several different occasions, I am inclined to believe this statement.

"Lights," you say? Oh, yes; they have lights—sometimes. There are laws requiring lights to be placed on each end of the nets, just as there are laws against seining and the destruction of sea-cows and alligators—but what's the use? Sometimes they will place a light on both ends, sometimes on one end, sometimes t'other, and more often on neither end. There is a law prohibiting fishermen from stretching their nets across the channel, too; but usually that is where you will find them the thickest.

And so the silent war goes on between the motorboatmen and the fishermen. When a motorboatman is caught in the nets which are carrying no lights he takes particular delight in slashing the offending net in forty-seven different directions, as a gentle hint to the owner to cease endangering the lives of boatmen. Then, when the fisherman discovers that his property has been hacked with a knife instead of being ripped open by a shark, he exhausts every means to discover the perpetrator. If he is successful, said perpetrator will find his motorboat reposing peacefully in the mud on the bottom of the river, a couple of auger holes having assisted in sending it to Davy Jones' locker.

Even when most of the nets are carrying lights at both ends, it becomes often a ticklish trick to navigate the river on a dark night. One dark evening we were bound for a dance twenty miles up the river. The river was alive with nets, and the lights sparkled in every direction, like a thousand fireflies on a jamboree. There was a young hurricane on our trail, and the river was getting real mad and kicking up a fuss.

We threaded our way through the mystic maze of lights for some time, but finally the puzzle stumped us. As we chugged along the middle of the stream, a mile from either shore, a light appeared far on our right and another way over toward the left-hand shore. Surely they could not possibly be on the same net! We had never seen or heard of a net that long, so we decided to continue our course. We passed safely between the lights and were patting ourselves on the backs for so easily escaping trouble, when suddenly our headway was checked and we all lurched forward in a heap.

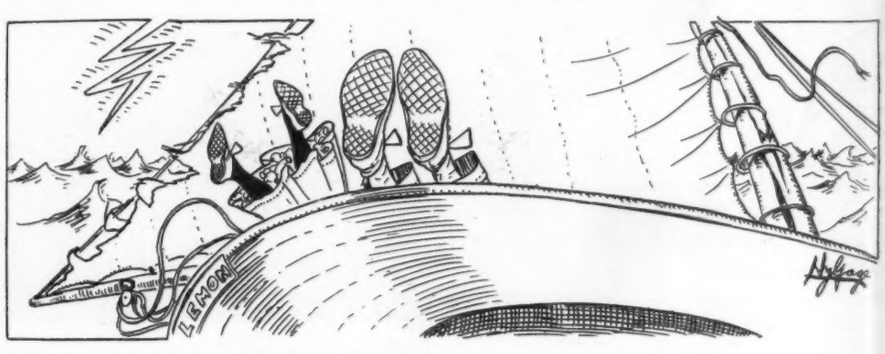
The great pompano net was over a mile long, and the row of corks had bellied out with the wind and caught on our bow. Before we could stop the engine the boat shot forward again, having slipped over the top line of the net. Just as we were all shouting a joyful "Ah-h-h-h!" we were yanked up short once more. The rope had caught our propeller this time, we were certain, and as soon as our boat swung broadside to the following sea we would be in a pretty pickle.

Our lucky star was in the ascendant that night; otherwise—oh, well, what's the use of going into details? It didn't happen. The net did not wind up on our propeller. We were not swamped. By catching the net on our bow it had stopped most of our headway, so that the boat slid over the corks and the rope caught on the bend in our shoe and held us long enough to get the engine stopped.

When you do run into a net on a dark night a fellow doesn't know whether he is "going or coming," as the slang phrase goes. I once found this literally true on a trip from Walton to my home down the river. I was in a small motorboat, which had the most accommodating engine you ever heard of. When my propeller fouled a net, shortly after I left the dock, I heard the knocking and grinding of the rope and corks under the stern, and thought for sure I was up against it. Not so! The motor gave a kick and a snort and went popping along as serene as a prayer meeting. To be sure, the boat acted queerly and steered in an unusual manner, but I attributed that to the bunch of net that probably was entangled in the rudder. Say, do you know I was nearly back at the dock before I discovered that I was *going backwards!* In some unaccountable manner the pull of the tangled net had caused the engine to reverse, which had freed the propeller.

The trout nets are often set with one end on the shore and the outer end marked with a lantern on a cork buoy. When I first saw them I asked the boys how to avoid them, and was told always to keep outside the single lantern. So that night, when I rounded Racey's Point on my way home, a single light bobbed into view. Did I obey instructions and keep outside said lantern? I did. Did I avoid trouble thereby? I did not! I had the worst case of "fouled-propeller-à-la-fishnet" you could expect to see. The light was on one end of a net that stretched out into the channel, and there was no light on the other end.

Let us slip hurriedly past the next few moments (while the air was blue with language) and leave this painful scene, after merely



"WE PITCHED HEADLONG INTO THE DRINK."

stating that I stood in water up to my neck and hacked and carved, and slashed and cussed for one solid hour! It is lucky I was in Florida waters.

Cheer up; the worst is yet to come! Our most hazardous encounter with these blood-thirsty sea-serpents occurred while under sail in a small auxiliary catboat south of Fort Pierce one evening. The fishermen in that burg seldom take the trouble to put any lights on their nets. We ran into five on this occasion within a distance of two and a half miles, and no sign of a light on one of them. A stiff breeze made the motor superfluous, and we scampered before the wind at a lively gait. The first net caught on our centerboard and yanked us up short. We had to let the sheet go to avoid capsizing.

We slid over two more in the same manner, but my heart was in my throat for a perilous minute or two. By jerking up the centerboard we were speedily set free. As the night grew inky black a thunder storm arose, and things began to assume a spectacular aspect, to say the least. As we crossed the fifth net and were held up short without warning, a flash of lightning showed that we were opposite our dock. In trying to come about and run inshore with the wind abeam, the net became tangled between the dead propeller and the shoe. In half a second we pivoted about like a merry-go-round. The squall gave our sail a savage slap and she jibed with a bang. It cracked down on me in the middle of the back, and wife and I pitched headlong into the drink. The sail went flat on the water as the little craft capsized and filled.

We floundered about in the seething brine, and I tried to grab my wife. She had disappeared! I knew she could swim under ordinary circumstances, but there was little chance for her in that black, angry water. It was a perilous moment, and, in order to keep my head, I tried to think of something cheerful, and wished that my wife was like the girl in the limerick:

"There once was a girl of New York,
Whose body was lighter than cork;
She had to be fed
For six weeks upon lead
Before she went out for a walk."

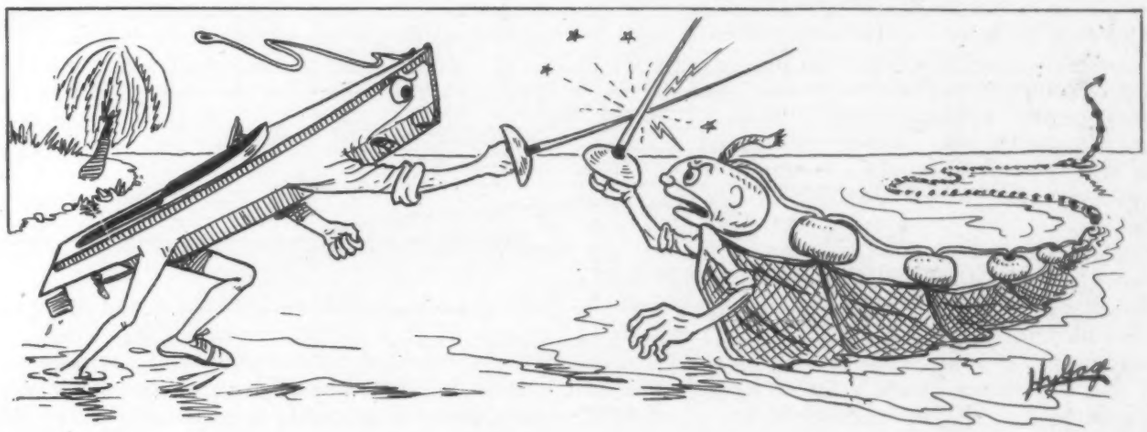
But I digress. Where was I? Oh, yes! I left my wife sinking in the angry waves, and that is no place to leave her, by any means. Down I plunged into the watery abyss. I became panic-stricken. All the deeds of my past life flashed before me. As if drowning wasn't bad enough without this!

Down, down, down I plunged, snatching and groping; but nothing rewarded my efforts save a jelly fish or two. At last I struck bottom. Then I stood up on my feet and waded ashore, for the water was nearly 3 feet deep!

I was overjoyed to find my wife calmly and coolly—yes, very coolly—sitting on the shore waiting for me.

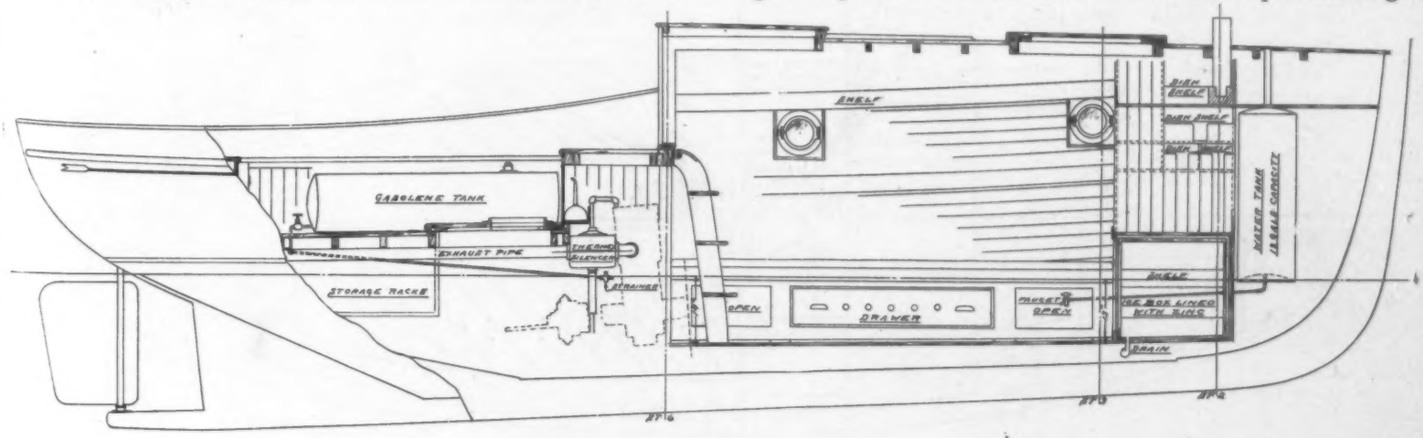
"What kept you so long, dear?" she asked, sweetly. "Did you lose something?"

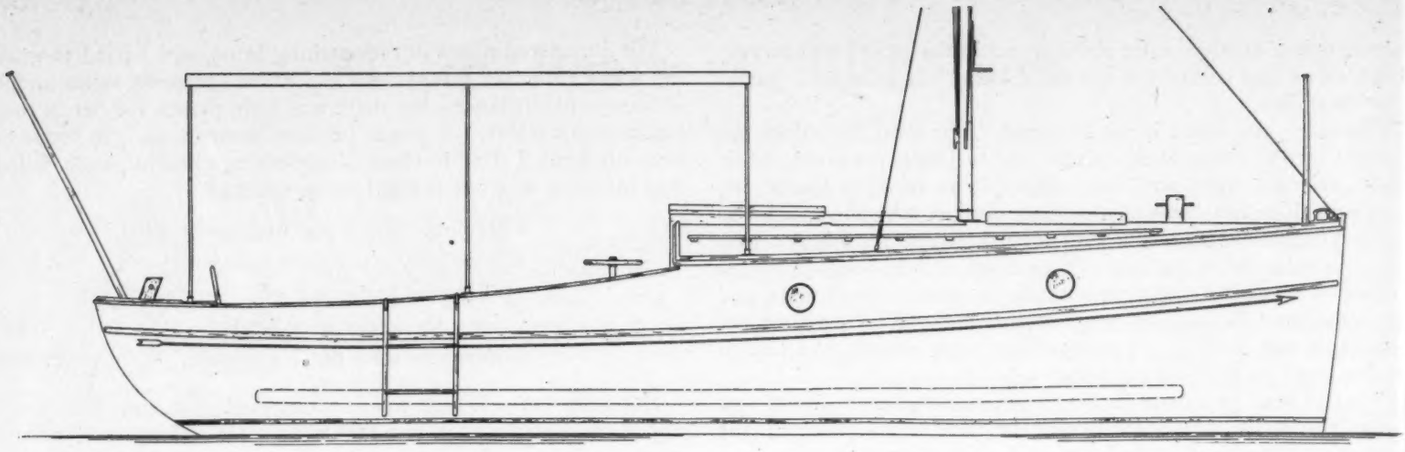
"Yes. My nerve!" I replied.



A Seaworthy and Complete 24-Foot Power Cruiser

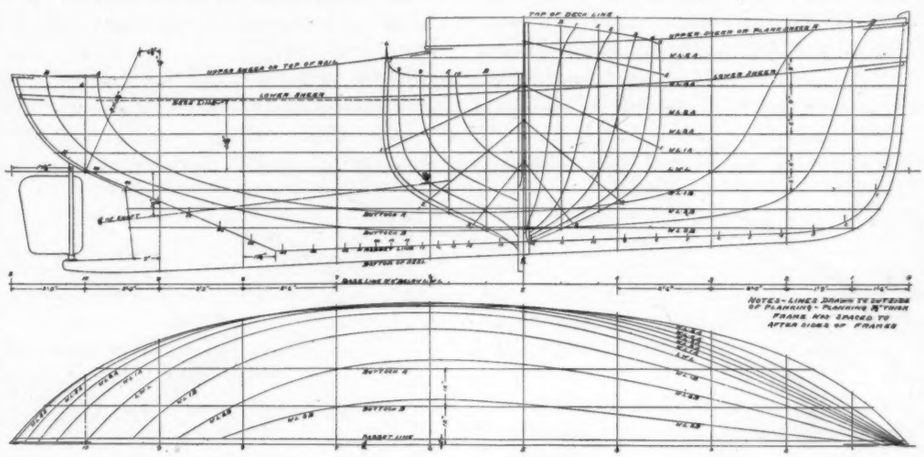
WE publish herewith an interesting set of plans of a 24-foot power cruiser designed in the office of Arthur P. Homer, 88 Broad Street, Boston, by and for Mr. Ralph E. Winslow, who is associated with Mr. Homer. This boat was designed for the personal use of Mr. Winslow, and will be used as a demonstrating and working boat, and her owner will live on her the greater part of the season. She was carefully planned to get the greatest available room in the smallest possible length





and still produce a good sea boat, as it is intended to use her all the year round in her capacity of working boat. At the same time, it was the desire to turn out a good-looking craft, and one that would pass as a pleasure boat in the summer-time.

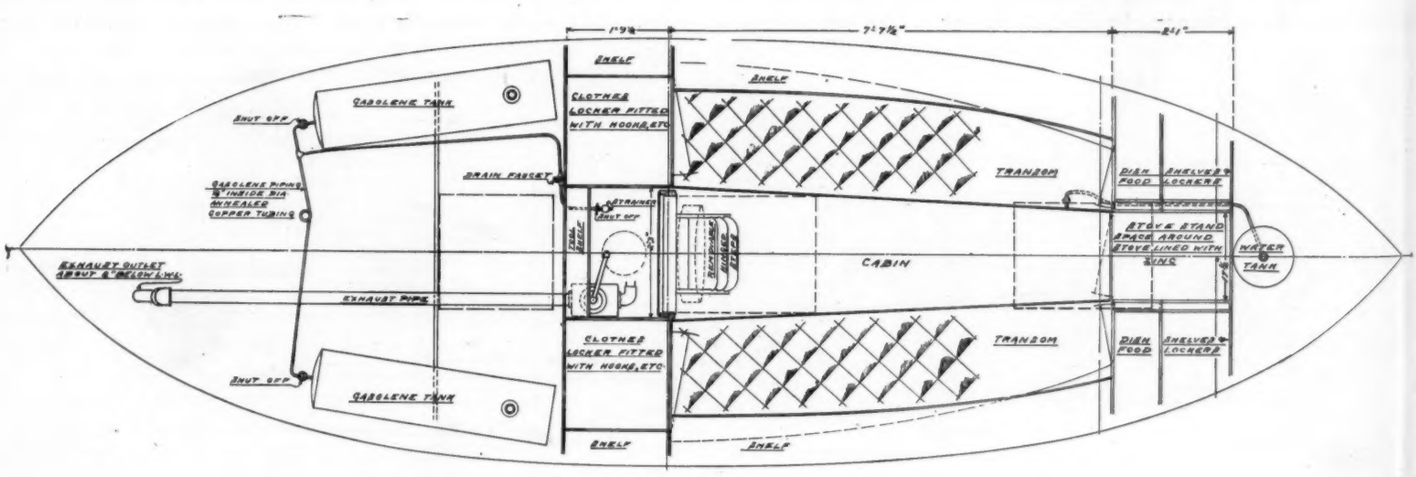
To get the necessary room and stability, she was given a great deal of beam for her length and a large under-body which would not detract much from her speed, and which, when heavily ballasted, would add to her seaworthiness. The deep body, good dead-rise, unusual depth, good freeboard and flare, and rather high canoe-shaped stern should make her an excellent sea boat. The principal dimensions are as follows:



Length over all, 24 feet; beam over all, 7 feet 6 inches; load waterline, 21 feet 7½ inches; draft, 2 feet 8 inches. The engine will be a heavy duty Eagle, single-cylinder, 6" x 6½", 2-cycle, 2-port, rated 7 horsepower at 400 revolutions per minute, but which will develop over 9 horsepower. This engine will drive the boat about 7½ miles per hour and through any kind of weather that she will be out in. The gasolene will be carried in two cylindrical pressure tanks with a total capacity of 48 gallons, which will give her a cruising radius of better than 275 miles—an unusual range for a 24-footer. Careful attention has been given to the gasolene piping and installation.

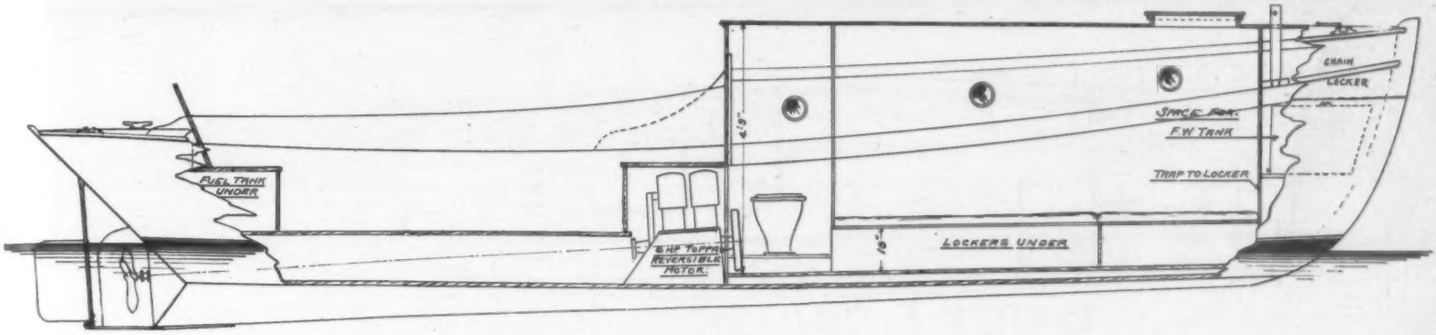
The accommodations are excellent for so small a boat. Commencing at the stern, the after-deck is raised to the level of the upper sheer to get the rudder port high, so that no water can leak over the top. This permits a large locker under this deck. The cockpit comes next, with a large lazy-back seat aft, and seats on the sides with lockers and gasolene tanks under. A bridge deck extends across the forward part of the cockpit and adds to the strength of the boat. The engine is under this bridge deck, and on either side of it are large clothes lockers. The engine space is fitted with shelves and racks for tools, as well as a large tank for cylinder oil. All the machinery is enclosed in this space, which is lined with metal. Hinged steps conceal the engine and give access to the cabin.

The cabin is 7 feet 7 inches long, and has more than 5 feet headroom, and is fitted with two wide transoms, with drawers and storage space below. Shelves, chart-racks, etc., are built in con-



venient places. A hinged hatch will ventilate the forward end of the cabin. In the forward part of the boat is a very complete galley. The ice box is of good size, and there are plenty of lockers and shelves. In the forepeak there is an 18-gallon water tank. As the above specifications show, this boat was designed with the definite purpose of getting the best possible living accommodations in a small boat, with strength, seaworthiness and a fair turn of speed. That she will fulfill these demands seems certain.

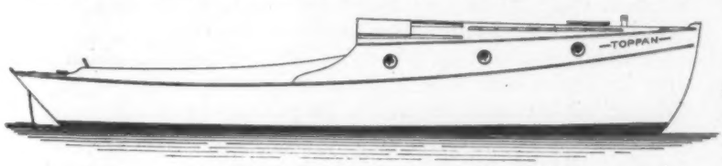
Taken all in all, she is a big little boat, not expensive to build, and she should prove very successful under all conditions.



A 26-Foot Dory Cruiser

THE accompanying plans, which are of the Toppan cruising dory which made such a hit at the Boston Motor Boat Show in January, are interesting as showing how much in the way of cruising convenience can be obtained in one of these seaworthy little craft of very moderate dimensions. She is only 26 feet in length over all and 7 feet beam, and is equipped with an 8 horsepower Toppan two-cylinder, two-cycle motor.

Her raised deck covers a cabin 10 feet long, in which there is

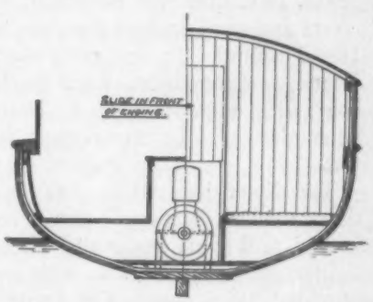


4 feet 9 inches headroom, with wide transom seats along each side and an especially wide seat at the forward end, directly beneath an 18" x 18" hatch, through which the ground tackle may be handled. At the after-end of the cabin a lavatory is partitioned off on the port side, while on the starboard side are the companionway and shelves for stove and storage of supplies. The position of the companionway is such that, in hot weather, whoever prepares the meals may do so with his head in the open air. The cockpit is 10 feet in length, with a broad lazy-back seat at the after-end, and, though not shown in the plans, the gasolene tanks are located under two side cockpit seats.

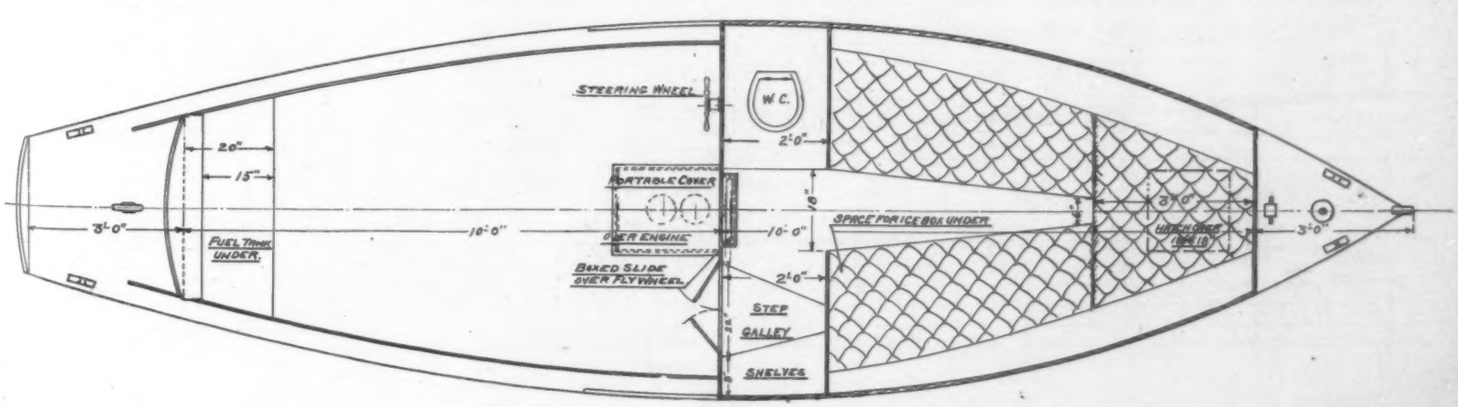
The engine is housed under a "takedown" casing box at the forward end of the cockpit, and the flywheel is accessible from the after-end of the cabin. A sliding hatch shuts off the engine entirely from the cabin when desired. A locker at the forward end of the cabin provides stowage space for anchor and cables, while there is also room there to install a fresh-water tank. The steering wheel is on the port side of the after-cabin bulkhead, within easy reach of the engine control.

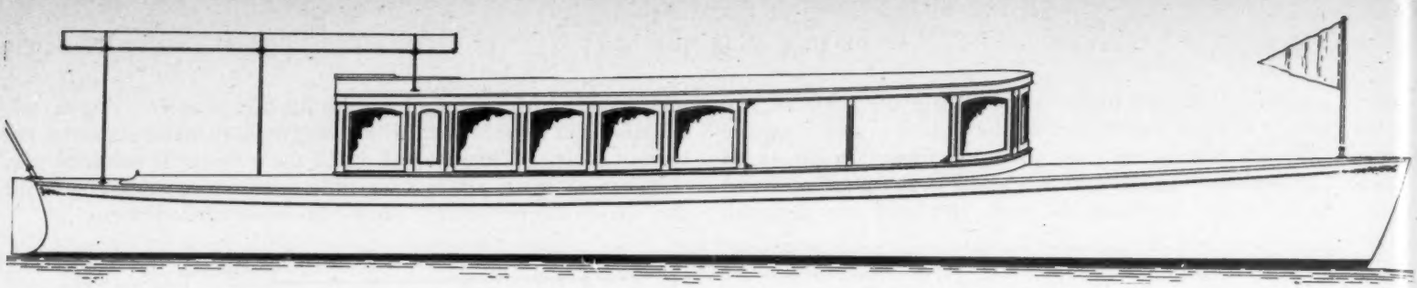
The cabin is lighted by six swinging port lights—three on each side—and the forward hatch may be arranged as a ventilator when the boat is under way or swinging head to the wind at anchor. A Sampson post forward, keyed to a 'thwartship stanchion, and a heavy wooden cleat aft are provided.

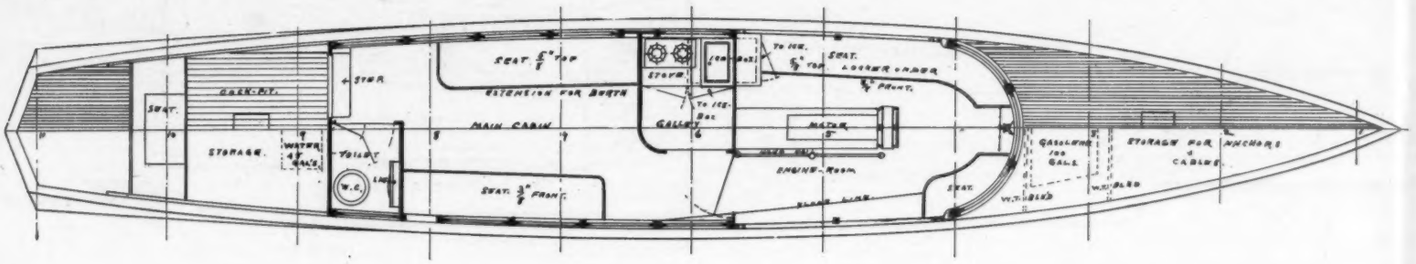
The berths are unusually large—8 feet in length, to be exact—and underneath them is space for an ice box and for general storage. Although the plans herewith show that the fuel tanks are under the after-cockpit seat, the actual arrangement of them in the boat exhibited at the Boston Show is as above described, and is better, as it not only provides greater seating capacity, but tends to centralize the weights.



The boat is strongly built, of the usual dory construction, though the lines of the stem and the sheer have been modified somewhat, giving her outboard profile more the appearance of a regular raised-deck launch than a dory. This gives many of the advantages of the raised-deck type of craft while retaining the seagoing qualities of the dory.







A 45-Foot High-Speed Ferry Launch

SINCE the advent of the power boat, with its possibilities for high speed and economical operation, one of the uses for which it has been found suited is to provide convenient and pleasant ferry service between the owner's place of business and his summer home. Many an out-of-the-way place has been made accessible to the city or railroad station by the use of these craft, which are capable of a speed of 20 miles an hour and over without any difficulty. For this reason the 45-foot, high-speed launch, the plans of which are published herewith, should prove of interest.

The boat was designed by R. M. Haddock, of New Rochelle, N. Y., for service in the protected waters near the head of Chesapeake Bay, and will be found particularly suitable for use on rivers and semi-protected waters such as the western end of Long Island Sound. In designing the boat, the type and the general interior arrangements were worked out to produce a fast day boat with enough cabin to insure protection on short cruises when desired. In this respect she answers her purpose very well.

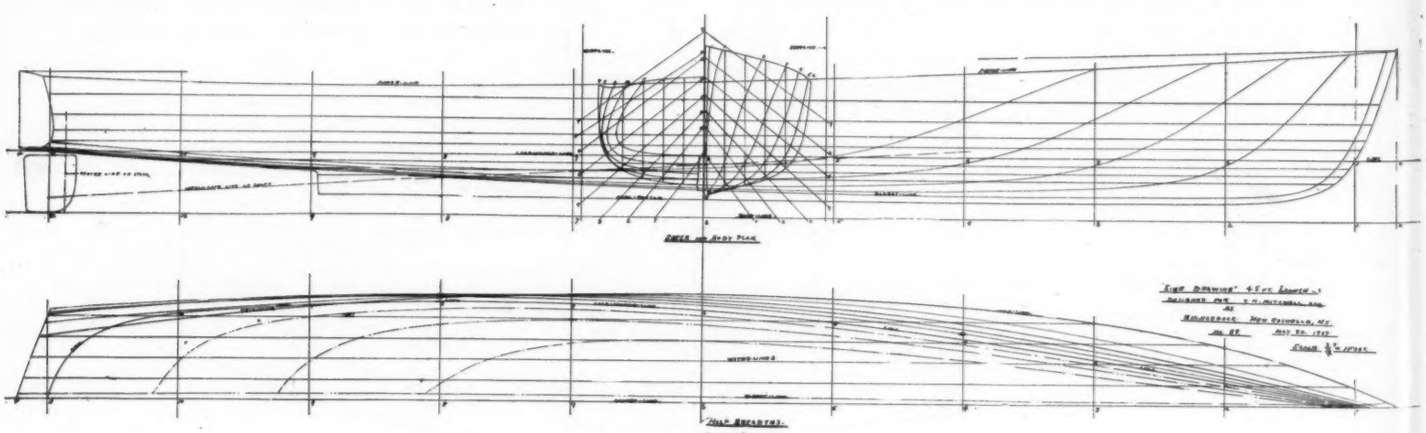
The dimensions are 45 feet over-all length, 43 feet 7 inches on the waterline, extreme beam 7 feet, beam on waterline 6 feet 4 inches, and draft under the wheel 2 feet 8 inches. The boat is lightly and strongly built with an oak keel of the plank type, moulded 2¼ inches. The frames are of steam-bent oak, while the planking is of white cedar ¾ inch thick, all the fastenings being of copper and riveted. The sheer strake and plankshear, decks, and all interior finish are in mahogany, finished bright, while the cabin roof is of white pine laid over oak carlins.

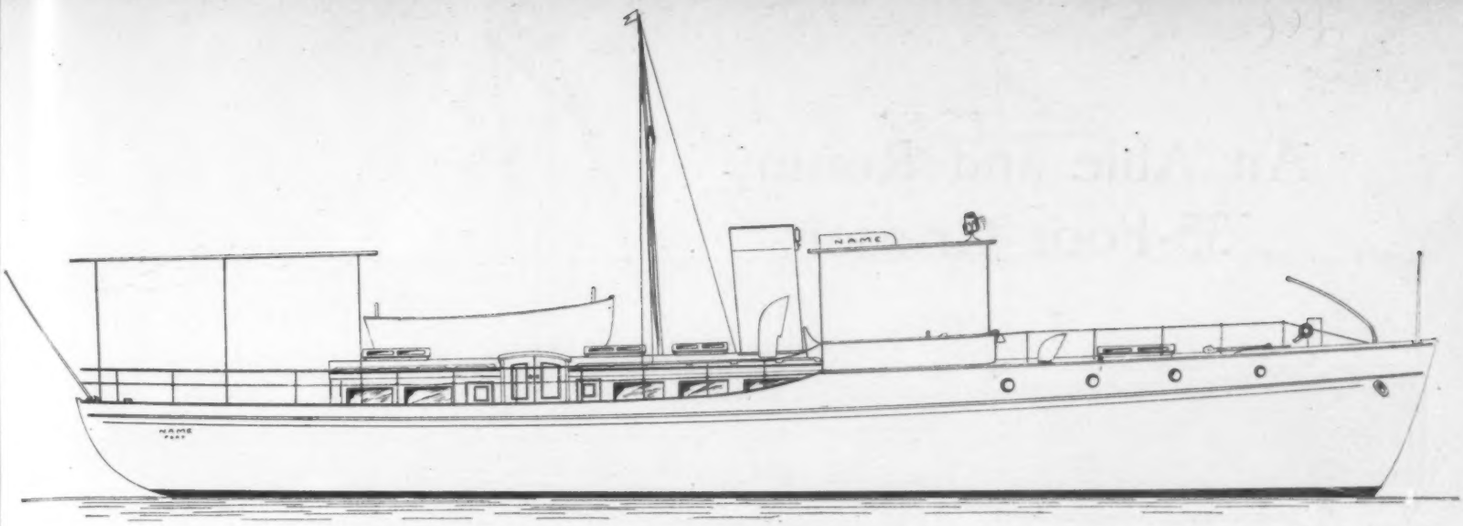
The engine is located forward of amidships, in the front end of the cockpit, which is protected on the forward end by glass windows, behind these windows being located the steering gear. These windows form a sort of pilot house, with seats on either side. A bulkhead with a swinging door divides the engine room and pilot house from the main cabin. This main cabin is protected by glass drop windows, and contains a galley, with stove, ice box, etc., and two extension transoms, which may be made into berths, with a toilet room at the after-end.

A step leads up from this cabin into the cockpit, which is left free for chairs, with the exception of a lazy-back after-seat. Over this cockpit is carried an awning on permanent stanchions.

With a 60-horsepower, 4-cycle engine, the boat will show a speed of 18 miles per hour. The gasolene tanks, with a capacity of 100 gallons, are located under the forward deck between two watertight bulkheads, while forward of this is a large storage space for anchors, cables, etc. A water tank, with a capacity of 45 gallons is located under the after cockpit.

The lines of the boat indicate that she can be easily driven and show good speed. She is sharp forward, with an easy entrance, and has considerable flare in the bow sections. The floor is flat and carried well aft, giving an easy run. There is very little sheer; but a long forward deck, well crowned, gives her a particularly pleasing appearance. For protected waters, there is no doubt that the glass-sided cabin, giving, as it does, more light and ventilation, is a particularly desirable arrangement.





A 55-Foot Seagoing Cruiser

THE 55-foot cruiser designed by William J. Deed, Jr., of Boston, Mass., is a particularly able and well-proportioned boat, and shows the high state of development to which the power cruiser of its length has been brought.

The dimensions of this boat are 55 feet long over all, 48 feet waterline, 11 feet 8 inches beam and 4 feet draft, and the accommodations are particularly comfortable and commodious for a craft of this size. She was designed for seagoing work and for use along the coast, and the lines show good dead rise throughout her length, with considerable flare and flam in the bow section, while she has ample freeboard throughout her length, though it does not in any way spoil the symmetry of her appearance. A boat of this type should be able to take anything in the way of weather that could be reasonably expected on our coast in the summer time.

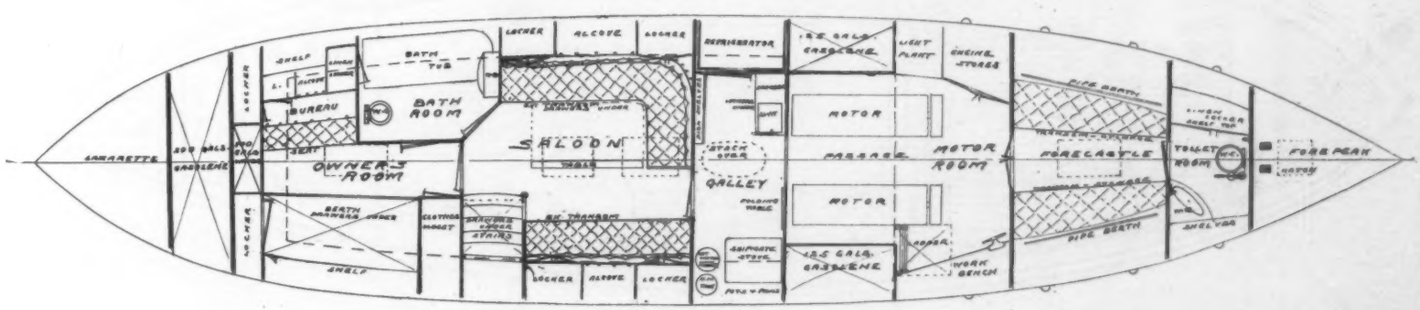
The raised deck extends almost to amidships, at which point a bridge deck extends across the boat, protected on either side by the sides of the raised deck where they are carried up above the sheer strake and by a coaming on top of this, which is carried around the center in front of the bridge deck. Here is located the steering wheel and engine control, the deck being covered by an awning on standing stanchions. The after cabin house has oblong plate-glass windows in it, giving plenty of light and ventilation below, while the after-deck is unusually commodious and is left free for the use of deck chains.

The owner's quarters are aft under this trunk cabin, and consist of a large main saloon, which is entered by a companionway from the starboard side about the middle of the cabin house. This saloon has extension transoms on either side, with plenty of locker space above them. Aft of this saloon are two doors, one leading to the owner's stateroom, occupying the full width of the vessel, and the other leading into the bathroom. The owner's room has a built-in berth with drawers beneath and a full-length clothes closet at the forward end. On the opposite side is a bureau with a seat in front of it, while along the after bulkhead are lockers, giving plenty of storage space. There is also a door from this stateroom to the bathroom, which, besides the usual fittings, has a full-length bathtub.

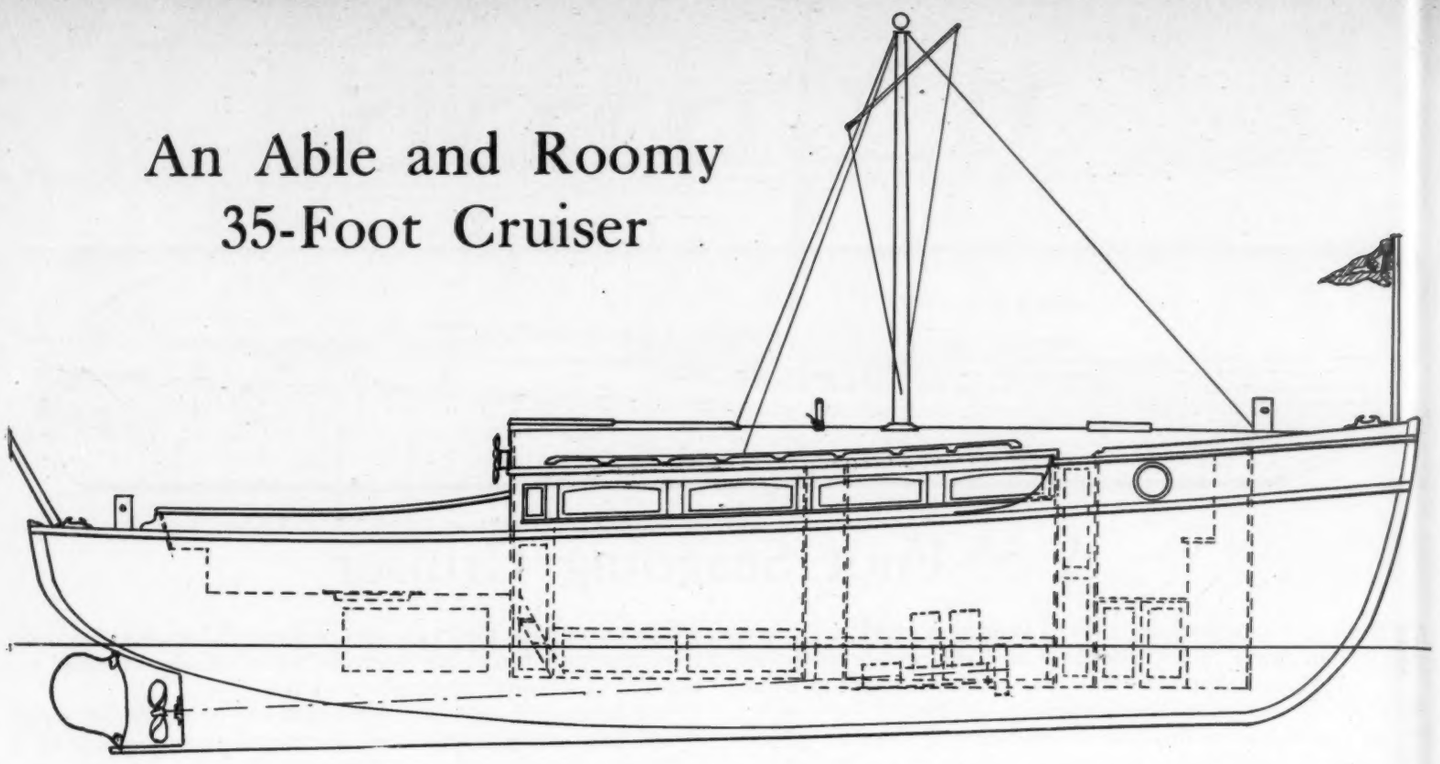
Just forward of the saloon is the galley, running the full width of the boat and separated from the engine room forward by a bulkhead. In this galley is a Shipmate stove, hot water heater, dresser, sink, and a large refrigerator, making a convenient and roomy galley. The engine room is under the bridge deck, and contains two 22 horsepower, 5½ by 6½ motors, which run at 350 revolutions per minute, giving the vessel a speed of 10 miles per hour. On each side of the vessel, opposite the motors, is a 125-gallon gasolene tank, while an additional gasolene tank of 200 gallons capacity is located aft under the quarter deck. Between the motors is a passageway, giving 5 feet 6 inches head room under the bridge deck, a point that is rather unusual in a craft where the engines are located as these are. The engine room and forward quarters are entered by a companionway ladder in the raised deck on the starboard side.

Forward of the motor room is a forecastle, with a pipe berth on either side and two permanent transom seats, while still further forward is the crew's toilet room, with wash basin, etc. This arrangement of the crew's quarters is particularly attractive, as it does away with their sleeping in the engine room and allows in the latter compartment a workbench and lockers for engine stores. The entire arrangement of these working quarters is well thought out, as it not only provides liberal quarters for the crew, but allows the steward access to the galley without having to make use of the owner's quarters.

In the eyes of the boat is the forepeak, which is entered by a hatch on deck, and provides storage for cables, spare gear, etc. The quarter deck is covered by an awning on stanchions, while the tender is carried on the after-part of the cabin house. The head room throughout, with the exception of the space under the bridge deck, is 6 feet 6 inches, while four skylights add to the light and ventilation below.



An Able and Roomy 35-Foot Cruiser



THE 35-foot raised-deck cruiser, the plans of which we publish herewith, was designed by the Bayonne Launch Company, of Bayonne, N. J., with the idea of turning out a comfortable and seaworthy little boat, with ability to go anywhere on our coast or inland waterways during the summer season.

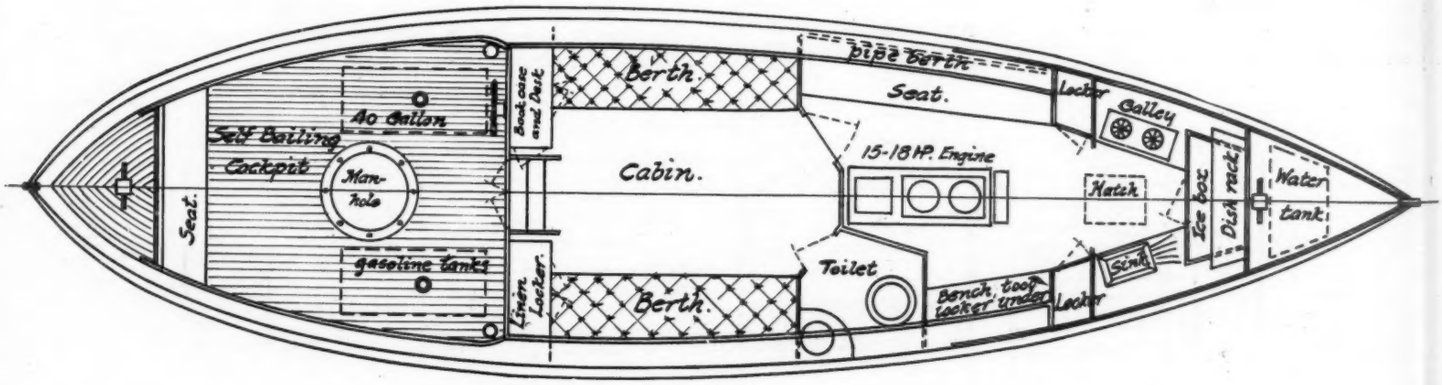
The boat in question is 35 feet over-all length, with a generous beam of 9 feet—a point which adds a great deal to her roominess below—and a draft of 2 feet 9 inches. She is of the combination raised-deck and trunk-cabin types, with a modification, however, of the conventional design of this type, in that the raised deck extends only a short distance aft, leaving a long trunk cabin, in which are fitted oblong plate-glass windows. There is a large self-bailing cockpit, with a lazy-back seat across the after end, the rest of the cockpit being left free for chairs. The steering gear is placed on the port side of the after-cabin bulkhead. A companionway with a short companion ladder leads from the center of this bulkhead into the main cabin, which has a transom berth on either side with large lockers on the after-end.

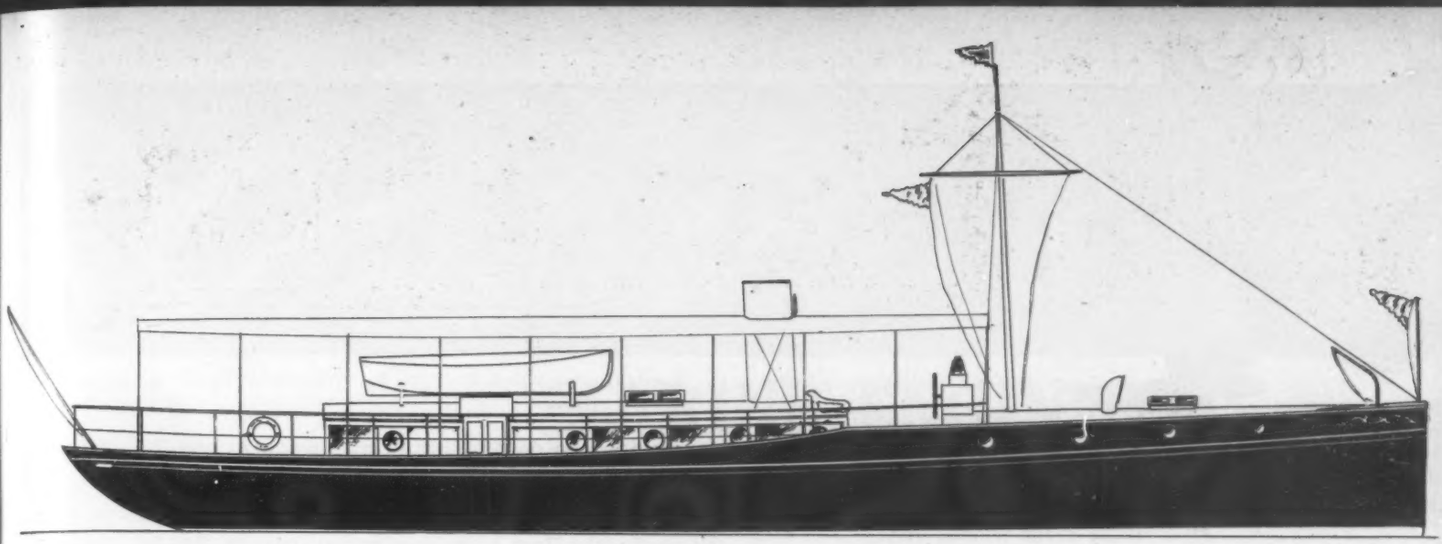
Forward of this cabin, on the starboard side, is a good-sized toilet room, bulkheaded off from the engine room, while on the port side is a door leading into the engine room. This engine compartment contains a 15-18 horsepower, two-cylinder engine, while along the port side of the boat is a locker seat with a pipe berth over it. Still further forward is a good-sized galley and sink, with a hatch overhead to carry off the heat and odors of the cooking. There is a large-sized ice box and dish rack alongside of the forward bulkhead.

The gasolene is carried in two 40-gallon tanks under the cockpit deck, where it flows by gravity feed to the engine. On either side of the house is a hand rail, lending additional security when going forward in a seaway. This boat makes an ideal little cruiser, and one in which there is an unusual amount of room for a craft of this size.

The boat has a sharp, rounded bow and a compromise stern, there being good dead-rise, which, with the depth of the boat, allows good headroom in the cabin. The greatest beam is carried well aft of amidships, and, in spite of her generous breadth, she should be easy to drive. She carries a single pole mast, with a small yard for signaling purposes.

One of the points of her interior arrangement that will be appreciated is the fact that the engine room is entirely separated from the cabin by a bulkhead, doing away with the placing of the engine in the center of the living compartment, which is seen so commonly in boats of this length and under. The additional fact that this engine room is under the extension trunk insures plenty of ventilation where it is vitally needed.





A Fast Cruiser for Long Island Sound

THERE is now building at the yards of the Luders Construction Company, of Portchester, N. Y., from their own designs, a 60-foot cruising boat of more than the average speed for Mr. Robert T. Fowler, a member of the New Rochelle Yacht Club. This boat will be named Kathmar II, and will replace a smaller boat of the same name with which the owner cruised and raced throughout the season of 1910.

The dimensions of this boat are: Length over all, 60 feet; length waterline, 56 feet; extreme beam, 11 feet 6 inches; draft of water, 4 feet.

In design, the boat is of the forward raised-deck type, with a bridge deck amidships and a cabin house aft covering the owner's quarters. The construction presents no unusual features, being strong, while the boat is graceful, with every indication of good speed for her power. The frames will be of oak, while the planking will be of yellow pine, copper-fastened throughout, substantial construction being the aim more than lightness.

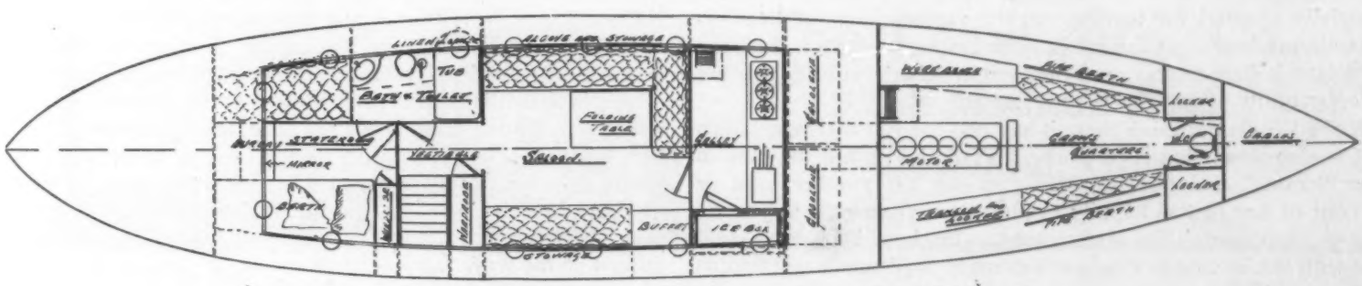
The motive power will consist of a six-cylinder, 50 horsepower engine located under the after-end of the raised deck forward of amidships, in a combined engine room and forecastle. In this room are accommodations for a crew of three men, although only two will probably be carried. This power, it is estimated, will drive the boat at an eleven-knot speed. The gasolene tanks are located under the bridge deck and have a capacity of 300 gallons, and are set in drip pans draining into the sea, the tanks being partitioned off to prevent any possible injury. A double watertight bulkhead aft of the gasolene tanks separates the forward part of the boat from the owner's quarters aft. This practically prevents all noise and fumes from the engine room coming into the cabin, and, in addition, adds greatly to the strength of the vessel. Aft of this bulkhead, extending the full width of the vessel, is a galley, which has an ice box with 400 pounds capacity, a dresser, sink and space for installing a range, with a smoke pipe leading into the dummy stack. There is a hatch on the port side leading to this galley, which is to be used as an emergency hatch.

Aft of this, and connecting with the galley by a swing door, is the main saloon, which is to be finished in African mahogany deck beams with white enamel panels between and mahogany trim and doors. In this saloon are transoms on either side, with a folding table in the corner of the port transoms and a buffet on the starboard side. Leading aft from this saloon is a vestibule, with a companionway leading to the alleyway on the starboard side. A large wardrobe opens into this vestibule, while on the port side is a large toilet and bathroom containing a bathtub.

A door leading aft from the vestibule opens into the owner's stateroom, which has a built-in berth on the starboard side and a wide transom on the port side. Between these two, at the after-end of the room, is a bureau with plate-glass mirror, while a door on the port side opens into the bathroom above mentioned. Large linen lockers are provided, while there is a space for dress-suit cases under the companion stairs.

The boat is lighted by electricity throughout, with a dynamo and storage battery located forward. The bridge deck, extending across the vessel, just aft of the raised deck, is protected on either side by a rail formed by the extension of the top sides, and here are located the steering gear and engine control, while a settee runs across the forward end of the trunk cabin. This trunk cabin is of mahogany, with large swinging ports and fixed glass sashes alternating along the side, while there is a skylight over the main saloon for additional ventilation. A rail is carried entirely around the boat from the raised deck aft, while the bridge deck and after-deck are covered by an awning on permanent stanchions.

An eleven-foot power tender will be carried on davits, forming an excellent small-boat equipment. The fresh-water tanks are of ample size, while the gasolene supply will run the boat 500 miles without refilling, giving her a wide cruising radius for a boat of this size, and she should make an ideal craft for extended cruising, having, as she does, ample accommodations for owner, guests and crew.



EDITORIAL

Published by the Yachting Publishing Co.; Oswald Garrison Villard, President; Herbert L. Stone, Secretary and Treasurer

Boats vs. Aeroplanes and Other Distractions.

We have just about succeeded in getting this boating game where it belongs and occupying its proper niche in the scheme of creation, with the advent of a new power for marine propulsion to hold the boys at the helm and to entice afloat those who had never dared venture over a yard from shore to shore before, when along comes a new distraction to take their minds off the compass card and the carburetor and fill their heads full of sky-piloting and a desire to navigate a thinner medium than the briny.

Up to last year we had always thought of a sky pilot as one to guide our wayward steps in the straight and narrow path, but to-day we recognize the term as applying to a real navigator, who knows air currents as a Hudson River towboat knows the tides; and on one occasion last summer the boys up on Long Island Sound had the wind taken out of their sails and the free passage of air to their intake valves interrupted by one of these air sailors hovering over the course. It's even getting so that a man can't consider himself safe any longer five miles from shore.

Well, the sport has lived through other distractions and still thrives. The automobile, when it first came in, threatened to put yachting to the bad for awhile, when men sold their good boats to put the money in "devil wagons"; but a year or two found these same men back in the game, and we diverted the power of the automobile to marine purposes, thereby multiplying the would-be shellbacks to an alarming extent.

In a measure it is but natural that this new sport should have some attraction for a sailor; for to be successful at it requires many of the same elements that are requisite in the handling of a small boat—daring, judgment, nerve, a steady hand and eye, and resourcefulness.

But there is something stronger and more potent in the call of the sea than a passing fancy, and, after all, as many thrills can be had in a hard beat to windward with a well-bunched fleet at the buoy, or a drive into a head sea with the 20 "horse" lifting her clear of every wave crest, as in seeing how near you can come to getting one wing of your "plane" hung up on Liberty's torch; besides which, it's much pleasanter to come to your end by having a boat swamp under you or describing a parabola through the air after the explosion, than by an increasingly rapid descent through space, with not enough of your body left to fill a pine box.

It is, perhaps, natural that some boat-builders and engine manufacturers should turn their attention to the new sport, for it is a business opportunity with them, and many of them have plants especially adapted for turning out the various parts of heavier-than-air machines. The field will undoubtedly enlarge, and the aeroplane is here to stay, and they might otherwise be neglecting an opportunity of increasing their output.

No! We do not think there is any call for you foremast hands and engine-room sharks to worry. You'll be sailing the blue in your "crates" and figuring how you can get another knot or two out of her just as happily twenty years from now as you do to-day, even though the air becomes as black with birdmen as it was with the locusts in Pharaoh's granary; and you'll still find us poor editors on deck toiling to enable you to read of your own cruises and races.

Getting the Proper Power for the Boat.

In the development of the internal-combustion engine, motors are being turned out by manufacturers for certain specified work, the general classification being divided into heavy-duty, medium-speed and high-speed types. In this the manufacturer has made it easy for the boat-owner to equip his craft in a way calculated to get the best results with the least waste of power; yet one constantly sees boats powered with an engine plant entirely unsuited to the craft in which it is installed. Probably three-fifths of the motor boats that are in existence to-day are showing a shameful waste of power, due to this very cause. Owners are beginning to learn in a general way the uses for which these various classifications are adapted, though the idea still seems to be prevalent among them that by merely increasing the speed of the motor they will gain speed in a boat, in spite of the fact that in heavy boats more speed may be attained with large propellers at slow speed than with smaller wheels at higher speeds on the same power. This is largely due to the advent of the high-speed motor and the fact that a speed of 750 revolutions is now considered quite moderate, so that when a man chooses his own engine for a cruising boat he is apt to be misled into thinking that 500 to 700 revolutions will produce better results than 350 revolutions in a heavier engine of larger stroke and bore. The engine dealers themselves are somewhat culpable in this matter, for they should advise, without bias, the engine purchaser; whereas, in fact, the desire of making a sale sometimes outweighs the desire to see a satisfied skipper in the game.

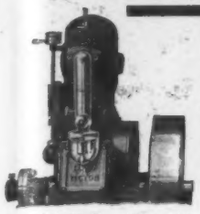
On the other hand, owners themselves are often to blame in insisting on picking out the engine instead of abiding by the advice of the naval architect or builder. The naval architect should know the type of engine best adapted for the boat he is turning out, and the owner will usually do well to accept his advice in the matter.

In our next issue we will publish an article that will go much further into this interesting subject, and which, we hope, will go a long way toward educating boat-owners to a proper appreciation of the use for which the various types of motors are designed.

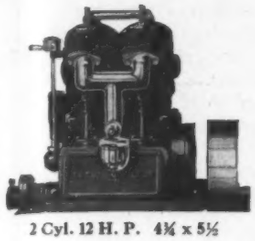
For the British International Trophy.

Elsewhere in this issue we print the revised rules formulated under the new deed of gift for the British International Trophy, which was drawn up in December of last year after a conference following the 1910 race for this trophy, the conditions prevailing at that time not being satisfactory.

Following hard upon the publication of this new deed of gift and these new rules formulated under it, the most important of which is that it is necessary for one country to win two races in order to take the trophy, comes a definite challenge for a race for the cup in 1911. It has been all along understood that a challenge was a foregone conclusion, and racing men in this country have been laying their plans accordingly; but a definite challenge, sent through the Royal Motor Yacht Club of Great Britain, is now on the way.

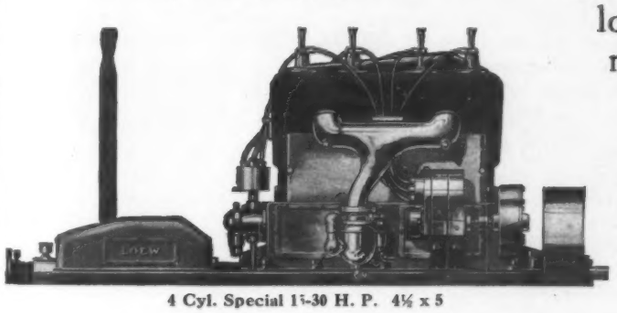


1 Cyl. 6 H. P. 4¼ x 5½

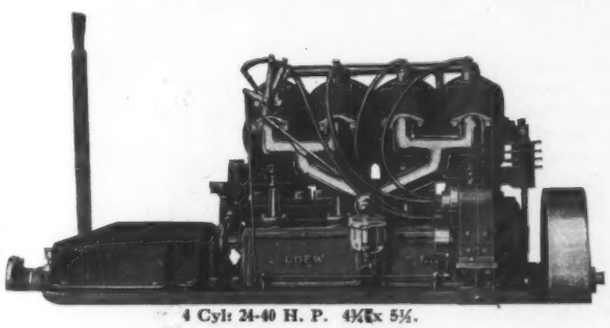


2 Cyl. 12 H. P. 4¼ x 5½

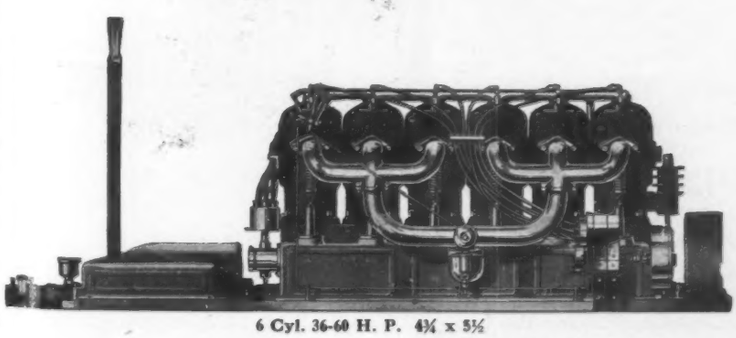
3 Cyl. 18 H. P. 4¼ x 5½



4 Cyl. Special 15-30 H. P. 4½ x 5



4 Cyl. 24-40 H. P. 4¼ x 5½



6 Cyl. 36-60 H. P. 4¼ x 5½

"As Rugged as the Pyramids"

LOEW-VICTOR

MARINE ENGINES FOR 1911

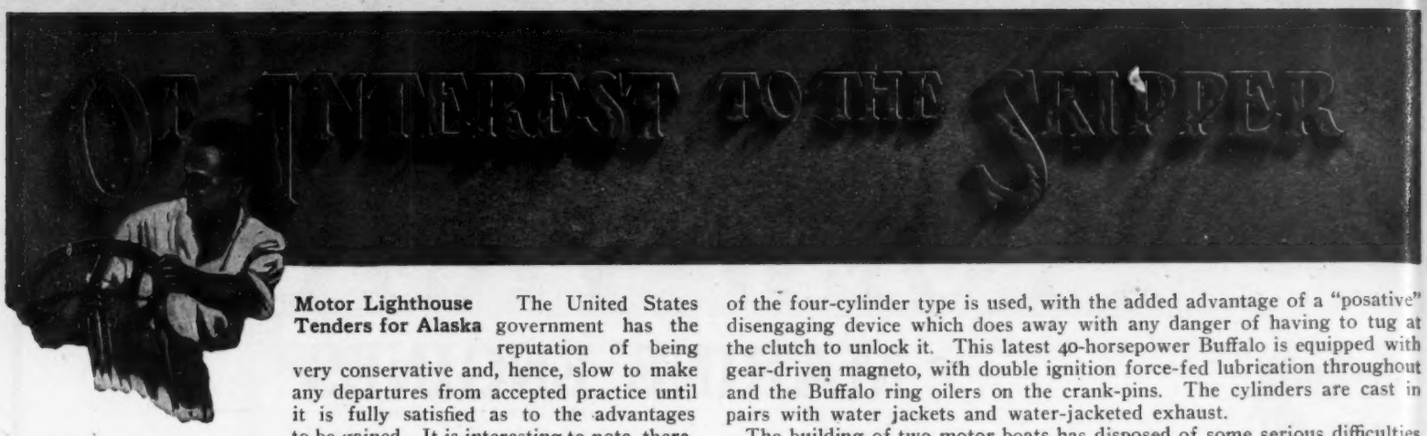
DOES YOUR ENGINE GO ALL OF THE TIME—WHENEVER YOU WANT AND AS LONG AS YOU WANT IT TO GO?

¶ The Loew-Victor is built to do this—either in a speed boat or in a cruiser. It is built heavy and substantial enough for either work, and to go as long as the operator requires. This is one of the reasons for the success and popularity of the Loew-Victor.

¶ There's no material too good for Loew-Victor Engines—no accessories too expensive or too complete. We pride ourselves on having the most complete stock engine on the market. The finish must also appeal to you. The iron parts are enameled a lead gray; the valve caps are brass, and all brass parts highly polished. Nothing flimsy and nothing shoddy on Loew-Victor Engines. Every engine that leaves our plant has been put through a brake test—we know exactly what each machine has done and we can tell you.

¶ **If your wants can be satisfied with any of the sizes of engines we build, you can't afford under any circumstances to purchase without investigating the Loew-Victor line.**

The Loew Mfg. Co.
9158 Madison Ave.
Cleveland, Ohio

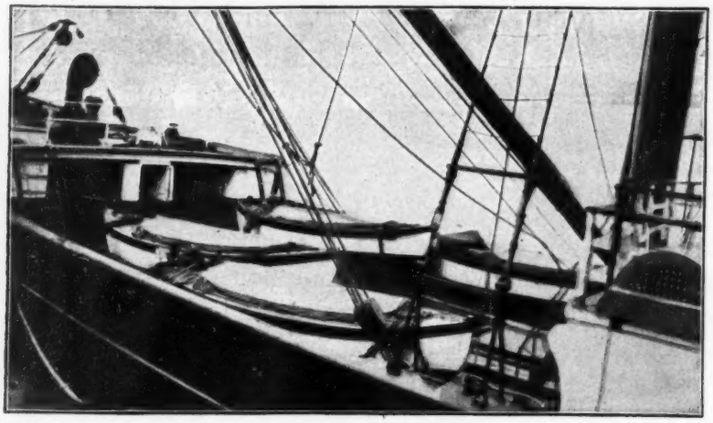


Motor Lighthouse Tenders for Alaska The United States government has the reputation of being very conservative and, hence, slow to make any departures from accepted practice until it is fully satisfied as to the advantages to be gained. It is interesting to note, therefore, that the adoption of the gasolene marine motor for government work is becoming more extensive every day.

One of the latest ventures of Uncle Sam in this direction is equipping of the Alaskan lighthouse service with eight heavily built, gasolene-propelled tenders, which have recently been turned out by a boat-building company of Portland, Ore. Six of these boats are 18 feet long by 5 feet beam, and one 23 feet long by 5 feet beam, all of the well-known whaleboat type. The eighth boat is a raised-deck cruiser, 30 feet long by 7 feet beam.

All these boats are powered with Scripps four-cycle motors, single-cylinder 5-horsepower machines being used in the open boats and a two-cylinder 10-horsepower in the cruiser.

As these boats will have to work in very rough water, they are heavily constructed throughout. The planking is of cedar, the balance of the woodwork being of white oak. Brass and copper fastenings are used entirely, and the deck hardware is of heavy bronze of a most durable type. Air tanks of sufficient capacity to float both boat and crew when the former is filled with water are fitted in each hull. Each one of these boats was



Four lighthouse tenders, equipped with Scripps motors, on deck of the supply ship Armeria, en route for Alaska.

given a running test over a measured course before being accepted. The smaller ones showed a speed of from 6½ to 7 miles per hour, while the cruiser easily made 9 miles per hour, which speeds are most satisfactory, considering the very heavy construction and comparatively small power.

In most instances the boats will be used for carrying mail, supplies, etc., to the more isolated lighthouses. They will doubtless prove a great boon to the keepers, and bring them in closer touch with the mainland than would otherwise be possible.

The accompanying illustration shows four of these boats lashed to the deck of the lighthouse tender Armeria while bound from Seattle to the North.

A New Buffalo The Buffalo Gasolene Motor Company, Buffalo, N. Y., has added another to its line of twenty-two models of four-cycle gasolene engines in the form of a new six-cylinder speed engine. The new model is designed to fill the demand for a high-speed engine for light boats. With 4¾-inch bore and 5-inch stroke it is rated 40 horsepower at 800 revolutions per minute. In general construction it closely resembles the 25-horsepower "Buffalo" auto-marine, except for its two added cylinders. The oil-pan is extended back farther than in the 25-horsepower auto-marine, enclosing the clutch. This keeps all the oil in the oil-pan and away from the rest of the boat.

A new type of rotary circulating pump has been added. This pump is so designed that it cuts off almost all the wear common to this style and retains all its advantages. The "posative drive" clutch and locking device of the four-cylinder type is used, with the added advantage of a "posative" disengaging device which does away with any danger of having to tug at the clutch to unlock it. This latest 40-horsepower Buffalo is equipped with gear-driven magneto, with double ignition force-fed lubrication throughout and the Buffalo ring oilers on the crank-pins. The cylinders are cast in pairs with water jackets and water-jacketed exhaust.

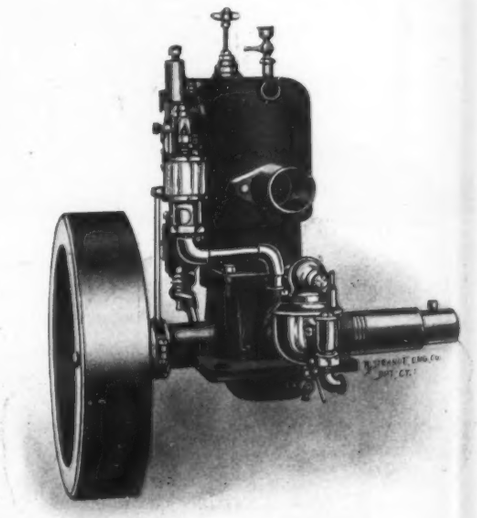
The building of two motor boats has disposed of some serious difficulties that stood in the way of the founding of the American College for Girls, which, financed by Helen Gould and other wealthy Americans, is being built near Constantinople for the uplifting of Turkish womanhood. One of the most formidable problems that has arisen in founding the school was the question of transportation. The school is so situated that to get supplies in by land necessitates a long wagon haul.

There is, however, a shorter water route, and Mr. Hibbard, the director of the establishment and a former member of the Quincy Y. C., decided to take advantage of this. He has ordered to be built a couple of barges and two power boats, one a launch for his own use and the other a tugboat for towing the barges. In the launch he has installed a 15-horsepower, four-cylinder Buffalo engine of the regular type. The tug-boat will be powered with a 12-horsepower, heavy-duty Buffalo, both engines having been purchased through the Rapp-Huckins Company, Boston. They will use kerosene for fuel.

To Save "Elbow Grease" Borsum Bros., of New York City, manufacturers of standard metal polishes since 1882, are now invading the motor boat and yachting fields with their "Putz-Pomade," "Putz-Liquid" and other well-known brands of metal polishes. These products have been inspected as to their combustibility by authorities having charge of government and inter-State bureaus, and have been found to meet all requirements. Being non-combustible these polishes are absolutely safe to use and may be stored in any part of the boat. The boat owner who takes pride in keeping his brass work and metal fittings clean and bright with but little expenditure of money or "elbow grease," will find Borsum's Metal Polish most economical, as it doesn't evaporate when exposed to the air. Boat owners will be glad to know they may now obtain from their dealers, or from the manufacturers direct, Borsum's celebrated metal polishes for use aboard their boats with no fear that they will catch on fire from any cause. A large trial sample of one of these polishes will be sent free to the readers of YACHTING who will communicate with the makers, Borsum Bros., 188 Greenwich Street, New York City.

A Carefully Designed Marine Motor In the Toquet Special Motor, the Specialty Manufacturing Company, of South Norwalk, Conn., has placed upon the market one of the latest and most carefully designed marine motors of the make-and-break, two-cycle type. This motor is being made in both single and double-cylinder models. The single-cylinder model comes in three sizes: 2½ horsepower, 3½ horsepower and 5 horsepower. The double-cylinder model comes in two sizes: 7 horsepower and 10 horsepower.

The manufacturers of Toquet motors have been careful not to sacrifice strength and durability in reducing the weight of the Toquet Special. All parts are exceptionally easy of access and can be reached without removing the



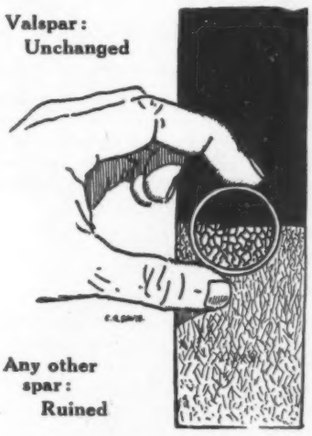
Toquet special two-cycle, single-cylinder motor, made in 2½, 3½ and 5 H. P.

VALSPAR

WILL NOT TURN WHITE

(An Advertisement Written by Charles G. Davis, Associate Editor "Motor Boat")

HAVE you ever come on deck early in the morning, and noticed that the bright-finished woodwork had taken on a white, soapy appearance wherever the dew had fallen upon it? The heat of the sun later restored the finish to its original state—*apparently*. The varnish *seemed* to be as good as ever. But it wasn't. If falling dew affects it, the varnish is not *waterproof*, and therefore it is not *protecting* and *preserving* the woodwork. If you continue to use that kind of varnish, your boat will become old, rough, unsightly in a short time. And to keep the boat looking even fairly well you will have to frequently refinish your cockpit rails, skylight slides, doors, and other exposed woodwork. The use of inferior varnish is a *foolish* and *expensive* practice,—a practice that has ruined many good boats.



Result of long exposure to water and weather

A varnish *whitened* by water is a varnish *weakened* by water—and with every new wetting it is less and less able to withstand the effects of weather and wear. The final result of exposure to *both* water and weather is clearly shown in the accompanying cut.

A varnish or finish that will not be affected by moisture is what every *good* builder and every *thinking* owner has been trying to find. I have seen many brands of varnish—the cans were labeled *"Spar Varnish"*—come and go. I have given *many* a trial. Some were worthless, others were fair; *only a few* were fit to use on a boat. *None* were *waterproof*.

When a new product was offered, several years ago, by Valentine & Company, I expected to find it a first-class varnish, for I knew the company's reputation. It was called VALSPAR. I was impressed with the *claims* made for it. But I was more impressed by the *results* it gave. Since VALSPAR proved so much superior to ordinary spar varnishes, I investigated, and here is what I found:

Valentine & Company have been the leading makers of fine varnishes since 1832. About seven or eight years ago they decided to add to their line a varnish that would be an improvement on the spar varnishes then on the market. They went at the problem in a *progressive, scientific* way. The Valentine chemists began to experiment with one end in view. That end was to make a finish for exposed woodwork which would withstand moisture and hot sun, and which would remain elastic and retain its gloss *indefinitely*. Finally the laboratory produced a hard drying, elastic, permanent coating for exposed woodwork that was *absolutely waterproof*.

This laboratory varnish was successful. It stood the *severest* tests. But other difficulties had to be overcome. When they tried to make the material in *quantities*, the result was not the same as that of the chemical laboratory. So the laboratory conditions were reproduced, in larger scale, in the factory. They found that even the kettles in which the gums are boiled must be of a different metal from that formerly used. Thus the making of VALSPAR started on a new basis, *entirely different* from the old methods of varnish manufacture. VALSPAR is an *original, scientific* preparation; not a *mere improvement* on other products. There is no *"ancient Indian secret"* about it. It is simply a perfect result created by *modern science*. It required years to perfect VALSPAR and the method of making it, and not a gallon was sold until Valentine & Company were convinced that VALSPAR was *perfect*.

VALSPAR Enamels are made by coloring the VALSPAR with any pigment desired. Hence, as VALSPAR forms their base, the same excellence that exists in VALSPAR exists in these enamel colors used for painting yacht exteriors and interiors.

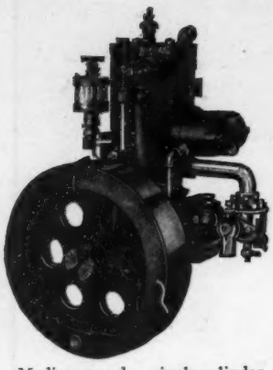
The same is true of VALSPAR *Liquid Bronze Bottom Paint* for boats. The bronze never *cakes* in the bottom of the can. It is always held *in solution* and does not have to be used as soon as it is mixed. Furthermore, the bronze *covers well*, gives a *good, lasting body* of bronze, and, by virtue of the varnish used, dries quickly and keeps the bottom absolutely clean.

VALSPAR is sold by dealers everywhere. Write for a copy of Booklet "D" and we will send you the name of a dealer in your vicinity who will supply you

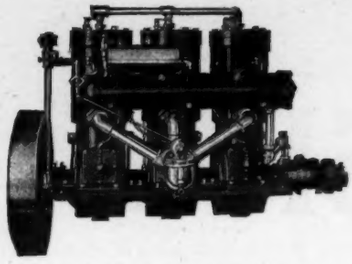
VALENTINE & COMPANY, BOSTON NEW YORK CHICAGO

TRADE VALENTINES MARK

W. P. FULLER & COMPANY, San Francisco
Sole Agents for Pacific Slope and Hawaiian Islands



Medium-speed, single-cylinder Bridgeport Motor.



Three-cylinder, semi-speed Bridgeport motor, showing exhaust manifold and intake.

engine from the bed pieces, and any lost motion in the crank pin can be taken up in a very few minutes by simply removing the side plate from the crank case and reducing the thickness of the shim. The Toquet Special has the further advantage of having all parts interchangeable, the manufacturer being thus able to supply them at short notice.

Bridgeport Motors for 1911 The general design and construction of Bridgeport motors for 1911 differ little from that of the 1910 models. The large base hand-hole plates, and also the detachable cylinder heads, have been retained, and the cylinders, cylinder heads and exhaust outlet are water-jacketed. The cylinders are all of the split-base type. On motors of more than one cylinder a one-piece bed plate, patterned to form the lower half of each cylinder, is provided, to which the cylinders are securely bolted, making a very rigid assembly and perfect alignment of the crank-shaft bearings.

Cooling is by means of a plunger pump of ample capacity, made of bronze. Cooling water from the pump is first delivered into the exhaust water jacket, passes from here through a by-pass into the cylinder jacket and overflows through the top of cylinder head. By this method, the intense heat of the exhaust is reduced, and uniform temperature maintained about the cylinder walls. The carburetor inlet manifolds are of special design, calculated to deliver even mixture to all cylinders and to provide maximum power on minimum fuel consumption.

The regular medium-speed models for 1911 will be as follows: Single-cylinder style, Model No. 30, 3-4 horsepower; Model No. 40, 4-5 horsepower; Model No. 50, 5-6 horsepower; Model No. 70, 7-8 horsepower; Model No. 90, 9-10 horsepower. Two-cylinder style, Model No. 60, 6-8 horsepower; Model No. 80, 8-10 horsepower; Model No. 100, 10-12 horsepower; Model No. 140, 14-16 horsepower; Model No. 180, 18-20 horsepower. The normal revolutions per minute of all but the last named model is 500, while that of the Model 180 is 400 revolutions per minute.

Added to the above is a three-cylinder, heavy-duty motor, Model No. 270, rated at 27-32 horsepower at normal propeller speed of 400 revolutions per minute. Two special semi-speed models are also offered, which will be especially interesting to those desiring this type of outfit. These are built in a two-cylinder outfit, Model D, 10-12 horsepower, and a three-cylinder outfit, Model E, 15-20 horsepower. Both of these models have a normal propeller speed of 600 revolutions per minute, and are capable of operating up to 1,200 revolutions per minute with relative increase of power delivered.

A 35-Foot Runabout with a Speed of 22 Miles Mr Chauncey Olcott, the well-known actor, has about five weeks vacation out of the year, and usually spends it in Florida. His chief amusement there this year will be motor boating, and for this purpose he has had built one of the finest and fastest runabouts in the South. This boat, which is very handsomely finished, is 35 feet long by 5 feet 3 inches beam, and is powered with a 45-65-horsepower, six-cylinder Sterling engine, which gives her a speed of 22 miles an hour.

22-mile speed boat built for Mr. Chauncey Olcott for use in Florida, equipped with 45-65-H. P. Sterling engine.

A Novel Aeroplane Boat An aeroplane boat that is attracting much attention in the Middle West is the latest thing in aeronautics, and will be of interest to sailors owing to the fact that the device is designed to sail over the surface of the water and not over the land. To accomplish this the bottom part of the plane is made in the form of an airtight chamber, shaped something like a short hydroplane, the machinery and operator's seat being carried on the top of this chamber or boat.

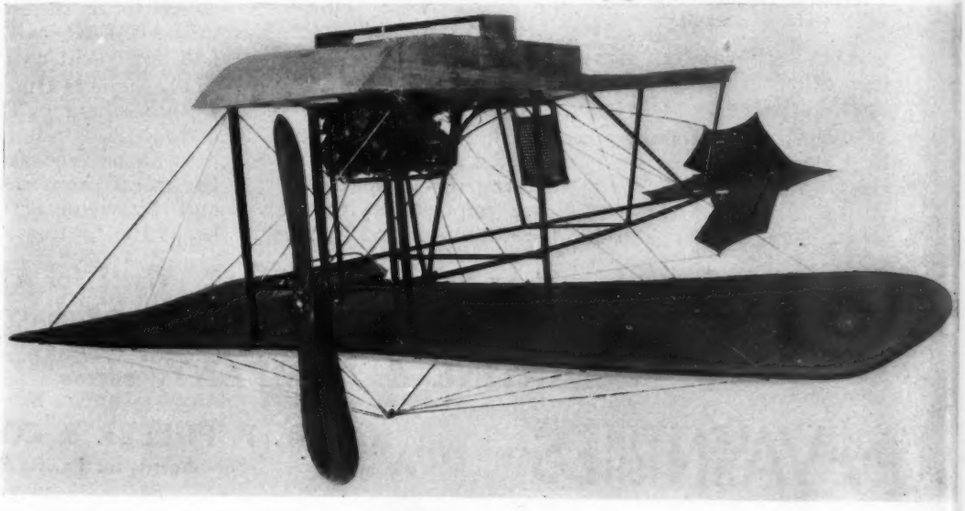
The device is driven by a gasolene motor turning an air propeller, and the wings are expected to lift the boat just clear of the surface. It is expected that the craft will skim along the top of the water at a rate of 65 to 70 miles an hour. This tank, or hull, is made of aluminum, and is 7 feet 2 inches long, 5 feet 7 inches wide and 2 feet deep, with a rounded bow, all the other angles of the boat being of 90 degrees.

Extending behind the hull is a steel and wood cross-piece a foot wide, called the "tail." On this flat board, 5 feet 7 inches long, a foot wide and a half an inch thick, about 10 feet back of the hull, the craft is expected to fly—that is, when the boat attains a sufficient speed forward the plane is expected to lift the hull out of the water entirely, only the "tail" touching at intervals and steadying the flight. Also, behind the hull is the rudder, four-vaned, the blades being covered with canvas. At the front of the hull is the propeller, which is a double blade of wood more than 6 feet from tip to tip. It is expected this summer that some of these boats will make trips to Detroit, Cleveland and Buffalo.

An Ingenious and Convenient Plug The auto-marine sparking plug built—we say built advisedly—by Legnard Bros., of Waukegan, Ill., is claimed by its makers to be the best and as nearly oil proof as any plug on the market. When the construction and material in the plug are considered it will be realized just how modest is the claim made. In the first place, the plug has special non-corrosive sparking points which extend into the firing chamber, producing perfect ignition. In the next place, the porcelains are tempered, which renders them practically unbreakable, except by downright abuse.

And these are not, by a large majority, all the good points of the Auto-marine. It is constructed in such a manner as to be easily separated when desired, a short turn of the insulated handle allowing the upper portion of the plug—with *both* sparking points attached—to be removed without unscrewing the shell from the cylinder head, and the upper portion may be instantly returned to its place, absolutely gas tight, by less than one-quarter turn of the insulated handle. The removal of *both* sparking points to the upper portion of the

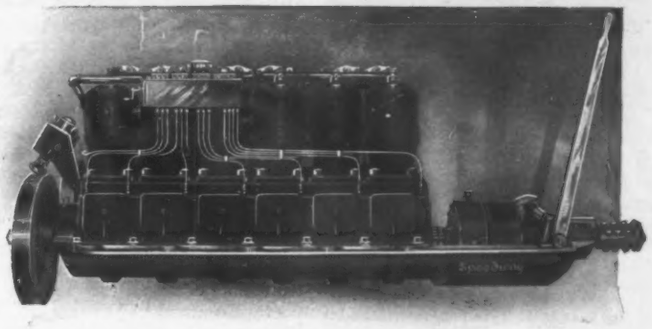
(Continued on page 268.)



Novel aeroplane-boat for skimming over surface of water.

PRE-EMINENT SPEEDWAY GASOLINE ENGINES

The Up-to-date Dependable Engine



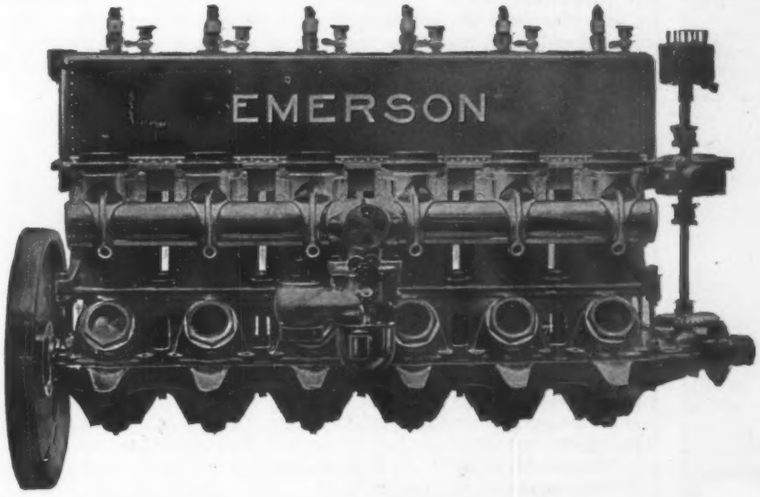
Adapted To Any Service

Not A Fair Weather Engine

—But an engine that stands by and ready under all conditions. ¶ It's built by experts but it does not require experts to run it. ¶ Do you know that the "SPEEDWAY" engine is designed and constructed at the largest Yacht and Launch Building Plant in the World? ¶ Our vast experience in building Torpedo Boats, Gun Boats, Yachts, Launches, Working Boats and Marine Machinery has given us practical knowledge as to what is required of an engine.

The Speedway is built to meet all demands. **In Stock—Four-cycle Type, 8 to 300 H. P.**

GAS ENGINE & POWER CO. and CHARLES L. SEABURY & CO.
MORRIS HEIGHTS, CONSOLIDATED NEW YORK CITY



Judge a Thing by What It Does

100-125 H. P. Weight 300 lbs. Thirty-six Starts in one season and Thirty-six Firsts, defeating America's best known boats. This proves whether they will stand up and what they *will* do.

We are equipping the largest lot of boats above thirty miles per hour ever produced by one firm.

Over One Hundred flights in a Heavier-than-Air Machine without a single accident. The only engine that has flown with four men and the only engine with sufficient power to alight in the snow and water and fly out again. This is the record of Antony Jannus in a Rex Smith Aeroplane at Washington, D .C., eclipsing all flying records in this or any other country.

WRITE FOR PARTICULARS

The Emerson Engine Co., Inc.

ALEXANDRIA VIRGINIA, U. S. A.

See our other "ad." page, 265.

NEW YORK BRANCH—1737 BROADWAY, NEW YORK

Driftwood from Along Shore

Great Plans for the Middle West Regattas

Three cities in the Central West are preparing for great regattas during the coming summer. These cities are Dubuque, Ia., which entertains the Mississippi Valley fourth annual on July 4, 5, 6; Peoria, Ill., which entertains the Western Asociation in the first week of August, and Detroit, Mich., with the Great Lakes Association later in that same month.

Preparations seem to be going forward in just the order in which the regattas come. Dubuque is leading with the preliminaries, Peoria is next and Detroit third. Commodore St. Clair Ede, of the Dubuque Yacht Club, has his regatta committee at work obtaining facts and figures on how to stage what is expected to be the greatest regatta ever held in the Central West. In order to obtain a real insight into a game which is n w to them, this energetic commodore invited Thos. H. Webb, of Peoria, to visit Dubuque on Jan. 29. Accompanied by A. T. Griffith, this engine of activity in the motor boat racing game met the Dubuque committee. The Upper Mississippi metropolis men heard of the mistakes which had been made in former regattas; they were told what would succeed and what would fail; they were given pointers on publicity, and how to induce racing men to attend the meeting. In return the visitors discovered that Dubuque can afford a splendid 5-mile course, every inch of which will be in view from sloping river levees, that Dubuque has a harbor protected from the river's currents, and, above all, has derrick equipments which will take racing boats directly from cars, and without a transfer, deposit them squarely in the harbor, or take them from the water and swing them back onto the cars. If winter enthusiasm can be cashed in the summer time, Dubuque will attract the mightiest crowds that ever witnessed motor boat racing.

Peoria will hang up more valuable cash prizes than ever before for the Western Association. Its regatta will be handled by ex-Commodore Thomas H. Webb himself, as chairman of the regatta committee, and this alone means to the racing world that it will be handled by one who knows as much about the game as any man in the United States.

Commodore W. E. Scripps will be the mainstay of the Detroit meeting. A veteran racing man himself, he knows what the racing men require and what style of racing will please the crowds.

All three of these regattas will be run under Mississippi Power Association rules—over-all length alone being the only requirement. The four standard Western classes will also alone be recognized—the 20, 26, 32 and 40-foot. All starts will be flying; all turns to port; first boat in wins the money—simple, isn't it?

Two men, hitherto known only as possible contenders, have announced their intentions of entering craft for championship honors. They are James A. Pugh, of the Pistakee Y. C., of Chicago, and Carl G. Fisher, president of the Indianapolis Speedway Association, of Indianapolis. Each man is a millionaire, and each aspires to wrest from "Red Top" Hughey and J. W. Whitlock the honors won by Red Top and the Hoosier Boys. Pugh plans a 32-foot Fauber hydroplane, designed to carry three Emerson motors, each to develop from 90 to 120 horsepower. His outfit is to weigh but 1,600 pounds, and he aims particularly at the Western Association trophies, as he is acquainted with Peoria waters.

Fisher's outfit is being designed and built by the Seabury Company, of New York. She will be 39 feet 11 inches over all, and her power plant will be rated in the "dark horse" class; but the boat is to be delivered with a guarantee of 35 miles per hour and a forfeiture of $1,000 for each half mile under that mark.

This line of gossip means that the Central West is preparing for the fray in real earnest. In the smaller classes, particularly in the 20-foot class, there are a dozen new boats being constructed, and it is common "dope" and even-money betting in real racing circles that 30 miles an hour will be hung up when the winner of the first joust of these little fellows is announced.

Boat politics also attracts some interest, and men close in touch with the situation pick E. S. Osborn, of Chicago, to succeed himself as president of the Western Association, while the same gossip has it that Thomas H. Webb will be unopposed for the presidency of the Mississippi Association, if he cares to accept that honor.

A. T. Griffith.

From Lake Erie's Shores

With the days lengthening out the call of the water is beginning to be heard by the boat lovers who dwell along the shores of Lake Erie. Although balls and quiet little dinners at the club houses continue to be more talked of than regattas and cruises, there are unmistakable signs cropping up to show that the nautical bacillus is becoming active again, and another month will see plans for the season well under way.

From the present outlook matters pertaining to the various power and sailboat organizations at the lower end of Lake Erie will continue much as they were last year. There have been many changes in the officers of most of the clubs, but in practically all of them the same general policy will be continued next season as prevailed last year.

One of the most noteworthy changes brought about at any of the annual meetings relates to the Motor Boat Club of Buffalo, which, by an amendment to the rules, will hereafter elect its officers through the board of directors. Those chosen to serve through the coming year are: Commodore, Edward F. Dold; vice-commodore, William J. Gunnell; treasurer, E. N. Wilkes; secretary, Phillip Gerst; fleet captain, Harold Kelley. The retiring commodore, Henry T. Vars, refused re-election. The board of directors consists of Howard D. Baker, Carl J. Balliett, Charles A. Criqui, Edward F. Dold, Phillip Gerst, William J. Gunnell, A. G. Hoefler, Harold Kelley, John Messersmith, Joseph T. Snyder, Henry T. Vars, Edward N. Wilkes, C. E. Cummings, E. N. Statler and Thomas Moffat.

Several changes will be noted in the personnel of the Buffalo Launch Club management this season. The officers elected at the last meeting were Commodore Levant R. Vandervoort; vice-commodore, Elmer E. Harris; fleet captain, Harry D. Elliott; secretary, William A. Van Sice; treasurer, Louis A. Fischer. Directors, Fred. Fenster, Frank M. Martin, Dai H. Lewis and Percy Brunskill. The annual banquet was held at the Statler Hotel, February 9, with great success.

One of the biggest events of the month in a social way was the annual ball of the Buffalo Yacht Club, which was held in the new ball room of the Statler Hotel, February 21. Heretofore the yacht club has usually held its ball at the Twentieth Century Club, but this year the committee soon saw that the rooms would be too small and the change was decided upon.

The yacht club will be particularly active this season. Not only will the sailing contests be more numerous and bring out more entries, but the club will follow up its splendid success of last season with a good series of motor boat races. The Hower Trophy race will, of course, be the big event, but there will be many other contests, and in addition to these a long-distance cruise for motor boats is being arranged, of which there will be more to say later.

C. B. McCuaig.

Seventh Motor Boat Regatta at Palm Beach

On March 14, 15, 16, 17 the seventh annual motor boat races at Palm Beach will be the drawing card for both the experienced enthusiast and the general public.

This year finds the officers and executive committee of the association enrolled as before, and the programme of the many events about the same as in the past.

The Palm Beach Power Association has laid out a programme for its meet which will undoubtedly eclipse all past motor boat events in America. The list of special prizes, additional to the regular cups offered in each class, insure a large entry list. These prizes are:

First—The Palm Beach Grand Prize ($2,500 in gold)—To be won twice by the same owner before becoming his bona fide property, and to remain in the custody of the association until so won, at 3 per cent interest per annum—the interest money to be added to the original prize.

Entrance fee, $50. Payable $25 at time of entry; $25 before starting. The aggregate sum received as entrance fees will also be added to the grand prizes. A prize cup will also be presented each year to the winner of this event.

Second—The Palm Beach Cup, value $500, for speed record.

Third—The Association Cup, value $500, for Florida designed and constructed boats.

For the seventh annual regatta of the Palm Beach Power Association the regatta committee announces the following classification:

Class A—All boats A. P. B. A. rating rule.
Class B—32 feet and under, L. W. L.
Class C—32 feet and over, L. W. L.
Class BC—All boats, L. W. L.
Class D—17 miles and under.
Class E—17 miles speed and over.
Class DE—All boats, speed.

Handicaps or time allowance will be figured for Class A in accordance with rating obtained under the A. P. B. A. measurement rule, and for Classes B, C and BC, D, E and DF the actual speed ability system used by Mr. Theodore D. Wells in the five previous annual regattas. All entries should be sent to Mr. Wells, 32 Broadway, New York City, chairman of the regatta committee.

A New Canadian Club

The St. John Boat Club was organized during April of last year, and now has a membership of over 300 and a squadron list of over fifty motor and power boats varying in length from 15 to 50 feet.

Don't Buy a Motor Boat

UNLESS YOU INSIST UPON HAVING A SEAMLESS STEEL SAFE TANK

A Leaky Boat Is Pretty Bad But

A LEAKY TANK IS WORSE

Gasoline is mighty dangerous stuff, so when your Riveted Makeshift Tank springs a leak, and your boat is burning, just send us a wireless order

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FOR A LEAKLESS TANK

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LET US FIT YOU OUT RIGHT NOW!
Think This Over—Mr. BOAT OWNER!

Seamless Steel Leakless Tested

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The Voluntary words of a man who has used

Splitdorf Ignition

FOR FIVE YEARS AND FOUND IT

ABSOLUTELY PERFECT

MR. C. F. SPLITDORF
New York

New York, December 19, 1910

Dear Sir:

Having used your ignition apparatus on two boats with unvarying success, I feel that it is only right to acquaint you with the complete satisfaction it has always given me.

My boat which is driven by a Mercury Motor, is equipped with a Splitdorf Magneto. It has been in constant use during the entire season, and I have had absolutely perfect ignition during that time.

In view of this satisfactory service, I cannot speak too highly of your ignition system.

Yours truly,
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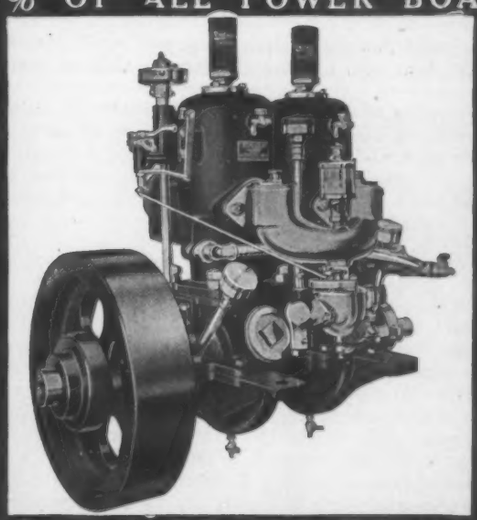

AND 60% OF ALL ENGINES AT THE BOSTON SHOW

I told you so
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Few motorboatists will now accept any other ignition system. Our New Catalog No. 100 gives all details. Get it! Also Catalog No. 110 describing the "fundamentally different" Perfex "Rectified" Magneto

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LAKE AVE., CANTON, MASS.

A commodious club house has been erected at Marble Cove, in Upper St. John harbor, which provides a beautiful anchorage. The club house is of two stories and a half in height, and contains a boat cellar, large social hall, kitchen, ladies' room, toilet and dressing room, and in the upper story a large locker room, to be lighted by electricity and heated by a furnace for winter gatherings of the club.

The officers of the club are: S. P. Gerow, commodore; A. P. McIntyre, vice-commodore; F. L. Jordon, rear commodore; P. L. Jordon, secretary; Herman Sullivan, treasurer, and Fred. Roberts, fleet captain. The club burgee is a yellow anchor on a blue field, pennant shape.

The St. John Boat Club extends to any of our American sporting brethren, who are cruising Eastward, a cordial invitation to use our anchorage and club house should they come to St. John, N. B. The officers of the club will be pleased to provide pilots through the Reversible Falls and also on the beautiful St. John River, which is one of the finest cruising grounds in America.

The Scripp's Endurance Cruise of the Great Lakes Power Boat League

Plans for the first annual reliability cruise contest of the Great Lakes Power Boat League, including the contest for the "W. E. Scripps Cruise Trophy," valued at $2,500, were laid at a recent meeting of the rules committee held in Buffalo, N. Y.

The object of the cruise is to encourage and foster a better acquaintance among power boat men along the Great Lakes, and to encourage a high standard of boat building and manufacture of engines and accessories.

In the first draft of rules submitted by the committee it is stipulated that the contest will be open to boats of the "cruiser type," not under 30 feet in length. The cruise each year will be not over 1,200 or less than 600 miles in length. Members of clubs affiliated with the Great Lakes Power Boat League, the Western Power Boat Association and A. P. B. A. will be eligible to entry in the run.

The course chosen this year for the first reliability cruise will be from Detroit to Buffalo and return. Night controls will be established at intermediate ports. It is estimated that each day's run will average about 75 miles.

It is anticipated that the Scripps cruise will attain the same popularity among power boat men as does the famous Glidden tour among automobilists.

The next meeting of the committee will be held in Buffalo, N. Y., during the Fourth Annual Power Boat and Sportsmen's Show, to be held in the Broadway Arsenal, under the auspices of the Buffalo Launch Club, March 25 to April 1, inclusive. Full details of the conditions of the contest, which in no sense is to become a race, will be announced in a future number of YACHTING.

Memphis Power Boat Club

At a recent meeting of the Memphis Power Boat Club the following were elected officers for the year 1911: V. A. Cordes, commodore; Claude Anderson, vice commodore, and E. C. Cochran, secretary-treasurer.

The club has succeeded in getting the City Council to instruct the Wharf Master that visiting launches tied up at the city front for a reasonable length of time are not to be charged wharfage, which has been the habit in the past. This will be appreciated by the large number who make the trip down in the fall and back in the spring.

The club anchorage is on Wolff River, about 1 mile up, and has the convenience of a good gasolene supply, city water and telephone connection. The organization has just completed a marine railway for its use capable of pulling out anything up to 15 tons. The club extends a cordial invitation to all visiting launches to make use of the club as their headquarters while in this harbor. Any information will be gladly furnished by the secretary, E. C. Cochran, whose address is 118 Madison Avenue, Memphis, Tenn.

New Rochelle Y. C. Annual Meeting and Dinner

The members of the New Rochelle Y. C. gathered at the Hotel Manhattan February 4 for the annual meeting, and the reports of the officers and committees were such glowing ones that they made the annual dinner, which followed the meeting, a most happy one and the most successful in the history of the club. Secretary C. A. Marsland, in his report to the members, showed that there are now 246 members of the club. This is twenty-nine more than there were a year ago. During the year seventy-one new members were elected, but some were lost through death and resignations. The club fleet numbers 110 yachts, which is larger in proportion to the membership than that of any yacht club in this vicinity, and the majority of these yacht owners are racing men.

The report of the regatta committee showed that the New Rochelle Club is a yachting organization in fact as well as in name. The committee is made up of active yachting men, who own and sail yachts, and they know better than others what racing yachtsmen want. G. P. Granbery is the chairman, the other members are M. S. Kattenhorn and W. H. J. Ehler. The report of the regatta committee was in part as follows:

"There were held by the New Rochelle Y. C. during the season eleven races, namely, spring regatta, Cornfield Lightship race, annual cruise, annual regatta, special race for sail yachts and for power boats to Lloyd's Harbor, the last-named being held in conjunction with the Huguenot Y. C. The race for the Waterway League championship was held under the auspices of the New Rochelle Y. C. The total number of starters in the various races is 186, of which there were 50 in the spring regatta, 40 in the annual cruise and 60 in the annual regatta.

"Your committee takes pride in calling your attention to the steady increase in popularity of the New Rochelle Y. C. regattas, as evinced by the new records made for number of yachts starting. More yachts participated in our annual regatta than in any race held during the season by any other club on Long Island Sound with the single exception of the Larchmont Y. C.

"Among the victories won by yachts of the New Rochelle Club were: The ocean race for Brooklyn Y. C. challenge cup, won by sloop Waialau, Mr. H. L. Stone; the Harlem Y. C. Stratford Shoal race, won by sloop Crescent, Mr. A. G. Hill, and the Waterway League championship, won by sloop Rowdy, Mr. H. S. Duell.

"In almost every regatta during the season the New Rochelle Y. C. was well represented, and on one occasion, when the weather was so boisterous as to cause a postponement of a certain annual regatta, there were only seven boats at the starting line, and of these five were from the New Rochelle Y. C. The ardent enthusiasm of its yacht racing members has earned for the New Rochelle Y. C. a reputation of being not a social, country or automobile club, but a real, live yacht club."

The election of officers resulted as follows: Commodore, E. C. Myrick; vice-commodore, S. C. Hunter; rear commodore, C. A. McGill; secretary, C. A. Marsland; treasurer, C. E. Salter; measurer, R. M. Haddock; trustees, Arthur H. Titus, Augustus P. Bennett and Lewis R. Smith; regatta committee, G. P. Granbery, A. E. Eldredge and M. S. Kattenhorn; law committee, J. F. Lambden, chairman, and C. W. Voltz; art committee, Henry M. Lloyd, chairman, and Henry Doscher; entertainment committee, E. R. Leaycraft, chairman, and William J. Clark; nominating committee, M. W. Houck, chairman, and F. W. Isenbarth and H. J. Meyer.

Fourth Annual Buffalo Power Boat and Sportsmen's Show

March 25 to April 1, 1911, at the Broadway Arsenal, is the time and place announced by the Buffalo Launch Club for its Fourth Annual Power Boat and Sportsmen's Show. The details of their plans have all been carefully worked out, and there seems to be not the slightest question but that Buffalo in 1911 will enjoy the distinction of having one of the greatest and most successful sportsmen's shows in America.

The hall provided being 167 feet wide by 267 feet long, without a girder or an obstruction of any kind in it, affords ample space to feature a large oval water tank, 50 feet by 130 feet, built in the shape of a canal with a 16-foot waterway, in which will be conducted water sports of most every description. An island in the center, appropriately decorated and made accessible by stairways and rustic bridges from either side, will suitably accommodate such exhibits as may interest the disciples of Izaak Walton and the lover of aquatic sports.

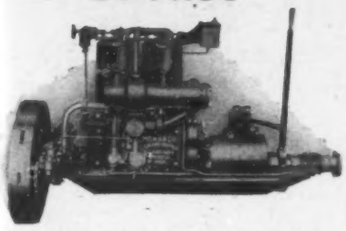
A novel arrangement of the exhibit spaces has also been worked out, whereby not a single space is preferable over the other, all having equal prominence, brought about by a liberal provision of aisle space aggregating over 22,000 square feet. The Buffalo Launch Club confidently expects to fill this large hall every afternoon and evening with a crowd of motor boat enthusiasts.

Melrose Yacht Club Elect Officers

At the annual election on January 7 of the Melrose Yacht Club, of the Bronx, the following officers and committees were installed: Commodore, John F. Doepker; vice-commodore, William L. Effinger; rear commodore, Frank Schultz; treasurer, Clarence A. Taylor; financial secretary, Henry R. Schmitt; recording and corresponding secretary, Karl E. Asmus; steward, William B. Greason; assistant steward, Frank Friedericks; measurer, Wm. H. Schmitt; sergeant-at-arms, John Hoffman; board of directors, John F. Brown, Christ Jacobi, Andrew Kraus, John H. Schmitt, William L. Effinger; house committee, David H. Millman, Christ Jacobi, Theo. Golden, Sr.; membership committee, Clarence A. Taylor, William L. Effinger, Lewis McGowan; auditing committee, August C. Ellinghaus, William L. Effinger; mooring committee, Theodore O. Berger, Wm. H. Schmitt, John Hoffman; fleet captain, Christ Jacobi.

After the installation some new members were initiated, and Commodore Doepker tendered a "beek steak" in honor of his election. Ex-Commodore Schultz acted as chief cook and bottle washer; and he can cook some.

BY-PASS



2-Cylinder 6 x 7—16 H. P. at 525 R. P. M.

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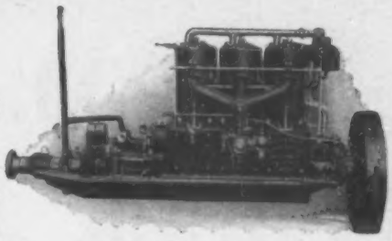
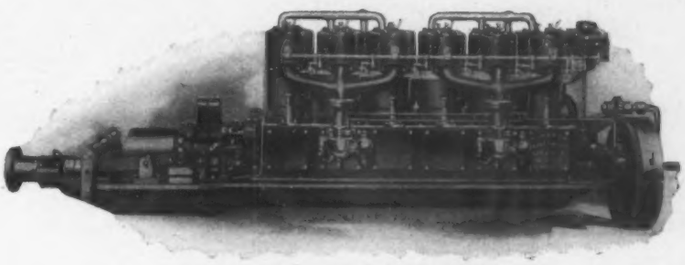
THE FINEST LINE OF HEAVY DUTY ENGINES EVER PRODUCED

THE ONLY ENGINE OPERATING EQUALLY WELL on EITHER GASOLENE or KEROSENE



3-Cylinder 6 x 7—21 H. P. at 525 R. P. M.

The patented by-pass used exclusively on Monarchs is the only device which allows of perfect combustion, when using Kerosene, thus preventing all unpleasant odor in boat or at exhaust. ∴



6-Cylinder 6 x 7—42 H. P. at 525 R. P. M.

Note arrangement of Clutch for Pilot House Control and geared down or easy Starting Device.

Monarchs are automatically governed—no racing on neutral, and are equipped with magneto, our own reverse gear and air compressor. Either make and break or jump spark at option of purchaser. ∴ ∴

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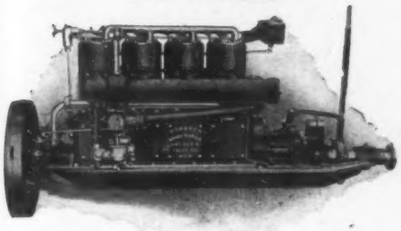


4-Cylinder 28 H. P. at 525 R. P. M.

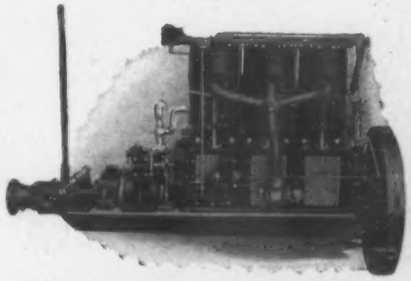
These Engines represent only a few of our Models for 1911. Send for handsomely illustrated Catalogue.

Reliable, Aggressive Agents Wanted Everywhere

GRAND RAPIDS GAS ENGINE & YACHT CO.

Grand Rapids, Mich., U. S. A.

Eastern Sales Office: 133 Liberty St., New York.



3-Cylinder 10 x 10—60 H. P. at 325 R. P. M.

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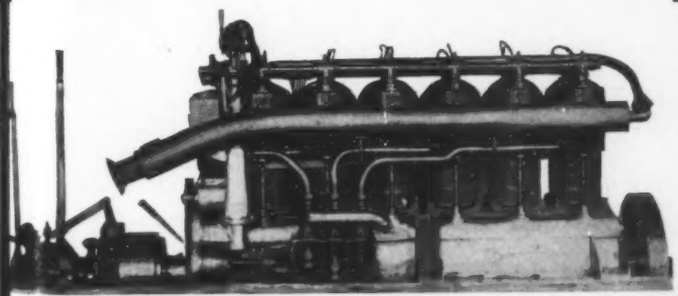
are built of the best materials obtainable in the world; maintain their high efficiency for a long period; are free from vibration and are economical in the use of fuel; are suitable for high-speed express runabouts and cruising boats.



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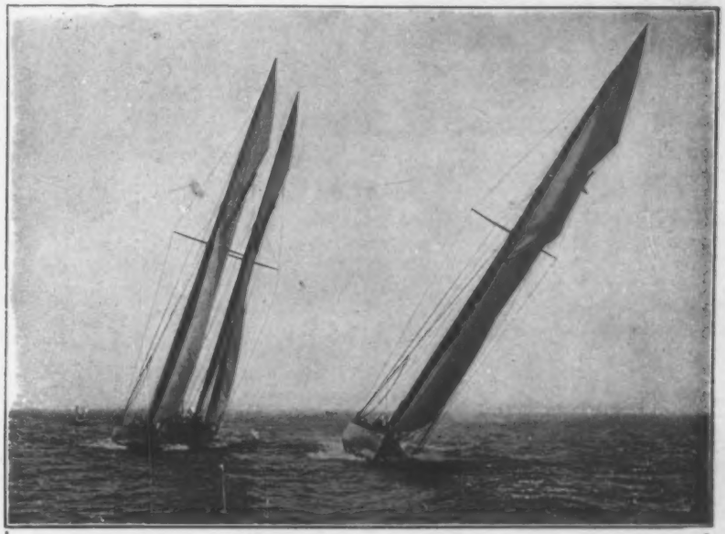

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Ask the Winners

HERE ARE TEN WINNERS WHICH HAVE CROSSED THE LINE FIRST WITH LOWELL DUCK

WESTWARD	WOLF
ELMINA II	TIMANDRA
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THERE ARE HUNDREDS OF OTHERS

Regular for Cruising
Special for Racing

Lowell Weaving Co.
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Make Your Metal Work Shine
GILT EDGE METAL POLISH
IS THE WORLD'S BEST
Sizes, ¼-Pints to 1-Gallon Cans
Write for prices and sample
W. H. CROSS, Mgr., 29 Murray St., New York

THE EVINRUDE DETACHABLE ROWBOAT MOTOR
Attached instantly to Flat or Round bottom boat. Can be carried by hand for taking on train, etc. Over 7 miles an hour. Not affected by waves or spray. Runs through weeds.
EVINRUDE MOTOR CO., 231 Lake St., Milwaukee
N. Y. Rep., H. J. WILLIS CO., 85 Chambers St.
Boston and vicinity, Rep., C. FRANK MOORE, 220 Devonshire St., Boston

Driftwood

City Island Y. C.

At a recent meeting of the City Island Y. C., held Tuesday evening, December 6, 1910, the following officers were elected for the season 1911:

Commodore, J. A. Daunan; vice-commodore, T. Kaufer; rear commodore, F. M. Umlauft; treasurer, L. G. Hermes; financial secretary, H. B. McLewee; corresponding secretary, C. A. Gergrueter; fleet surgeon, C. A. Buckbinder; measurer, C. F. Price; board of directors, T. Hart, chairman; H. B. McLewee, L. G. Hermes, W. A. Hoffman, J. Ringen.

East Greenwich Y. C.

The East Greenwich Y. C. recently elected the following officers: Commodore, Melville A. Newcomb; vice-commodore, T. Drew Dunnel; secretary, F. S. Nock; treasurer, Louis W. Dugdale.

The commodore has appointed Capt. W. L. Sharpe fleet captain, and Dr. George B. Langmaid fleet surgeon.

Considering the fact that the club is practically a new one, there are already 123 members and some forty-eight yachts enrolled. The location of the club in East Greenwich, L. I., is an ideal spot, the harbor being one of the finest. It is entirely land-locked, and there is excellent anchorage for boats of considerable draft.

Newburgh Y. C.

Members of the Newburgh Y. C. enjoyed the annual dinner of the club on January 13, when forty of the sailors sat around the round table in the ladies' grill of the Elks Club. Following the dinner the recently-elected officers were installed and the yachtsmen discussed plans for the coming season. Prominent among the points decided upon was the addition of a marine railway, constructed so that the members might easily haul their boats out of the water when desired.

The officers installed were: Commodore, Herbert G. Pratt; vice-commodore, Fred. V. Carpenter; treasurer, Francis B. Robinson; purser, Harry Hyatt; ensign, N. Deyo Belknap; fleet captain, Fred. Baker.

All of the officers spoke briefly of the plans for the coming season, and Mr. Robinson reviewed the work of the last year, saying that while there had been some criticism for lack of activity, when the results were all gone over, the work done considered, and the great success of the club in paying indebtednesses given due weight, much had been accomplished.

Bay Shore Motor Boat Club

The first annual banquet of the Bay Shore Motor Boat Club was held in January in the Yacht Room of the Hotel Astor, and was largely attended by its members and friends.

The club was started last August by a few of the motor boat enthusiasts of the Bay Shore and Islip summer colony. From the interest shown by residents of the vicinity, it has every aspect of becoming one of the most popular motor boat clubs on the Eastern coast. Incidentally, it is the only out-and-out motor boat club on Long Island, and as there are many interested in the sport on the south shore who own some very speedy boats the club will undoubtedly be a great success.

Two English Boats Built for Foreign Service

(Continued from page 235.)

hogany, the interior finish being of the same wood. There is a small mahogany cabin amidships with plate-glass windows, leaving both a forward and after cockpit. In the forward cockpit is installed the motor, which is covered in rough weather by a canvas spray hood. The after cockpit is reserved for the passengers, though the cabin house must shut off the view somewhat. The power equipment is of a four-cycle, 24 brake-horsepower

20th CENTURY
The Best Motor Built
SIMPLE DURABILITY and RELIABILITY ECONOMICAL
WE INVITE INSPECTION
2-3-4-6 CYLINDER
10, 12, 18, 24, 30, 50, 80 and 120 H. P.
Write for catalogue of our latest motors. The improvements on our 1911 machine keep it at the "top of the heap." Visit our factory and compare our motor with other makes in prices, etc.
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Our Sails on the 30-Footers
The boats we fitted out last season, were the first to finish in the races. Next year will see our sails on a great many of the best boats in this country.
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CITY ISLAND NEW YORK CITY

Quality Cushions
Mattresses, Pillows and Upholstery
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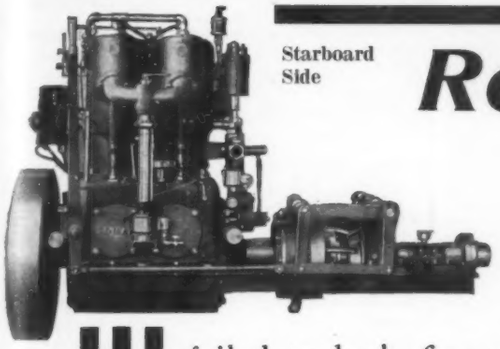

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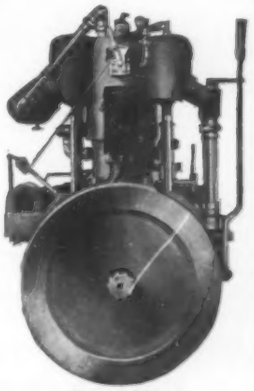
—this Doman Motor—because the highest skilled intelligence is embodied in its construction. (Listen) Scores have *disappointed themselves* because they failed to look *far* enough in seeking out a trustworthy motor. Now, *don't*—for the sake of your own peace and pleasure—don't buy a power-plant for your boat till you've investigated this

The DOMAN MARINE MOTOR

20 H. P. Heavy Duty MARINE MOTOR



Front View

It's compact; strong; perfectly balanced; every working part accessible; so simple that a greenhorn can soon run it acceptably by our printed directions.

It's a four cycle, two cylinder, 20 H. P. (and you really get 20 H. P. too) engine. We've told all about it in a catalog and folder which we'll send you free

We have other motors, 5, 8, 10, 15, 20, 30, 45, 55 H. P. for both medium and heavy duty. Write us your wants today.

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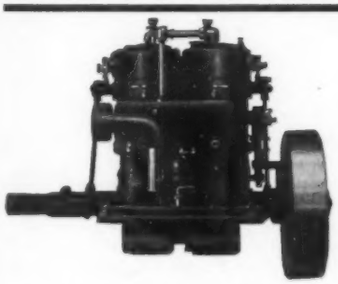

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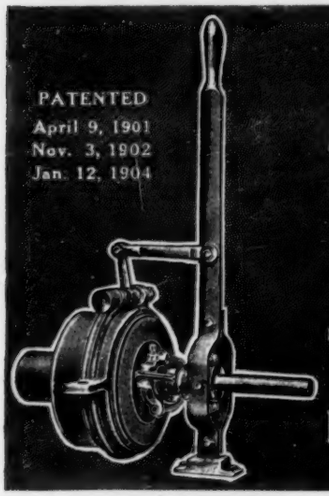

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The Lady Maud, Schooner Yacht

(Continued from page 234.)

hooked on, and the mate stepped aboard. He raised his cap very politely, and glanced round him with much curiosity, and then took a squint at the ensign, as if he could not reconcile that flag with the small business that had caused its display.

"I am glad that nothing is the matter with you," said he, addressing Sir Mordaunt, at once guessing him to be the owner. "We hardly knew what to expect when we saw that signal."

"You are bound to England, I presume," said Sir Mordaunt.

"We are, sir—to Glasgow, from New Orleans."

"That's a bit out of the men's track," said I to the baronet.

"Why, no," he replied; "not if I give them the means to get across to Liverpool. Would your captain take the poor fellows?" said he, addressing the mate.

"Certainly," was the reply. "I shall have to trouble you for the particulars of the rescue. Which are the men?"

They were called, and came aft. Dressed in the clothes lent them by the yacht's crew, and having fairly recovered their health, they looked very tidy, likely seamen.

"The captain of yonder steam-ship," said Sir Mordaunt to them, "is willing to give you a passage to Glasgow. I know that the port you want to get to is Liverpool; but, as you are anxious to get home, here is a chance you should not miss; and if I give this gentleman sufficient funds to pay for your journey from Glasgow to Liverpool, your being landed at Glasgow won't make any difference to you."

"We can only say, Thank you, sir!" answered one of them.

"You still have the clothes you wore when you were rescued?" continued Sir Mordaunt.

"Yes, sir."

"Well, you will keep those you have on, and the two suits will serve you as a kit. I'll make it right with the owners of those clothes."

The poor fellows tried to thank him again, but the words stuck in their throats.

"Bear a hand now, and get your bundles into the boat," said the mate; and they skurried forward, whilst the mate went into the cabin with Sir Mordaunt to take wine, and look at the entry in the log-book relating to the wreck.

In a very short time the three men were ready, and I saw them, as they said good-by to the *Lady Maud's* men, fling down their bundles and grasp the yachtsmen's hands. Indeed, I never saw gratitude more movingly expressed than in the postures and motions of these poor sailors. They came to the gangway where I was standing, and one of them said, "We should like to say good-by to Mrs. Stretton, sir."

"To be sure," I answered, and went to the skylight, where I called to the steward to ask Mrs. Stretton to step on deck. She came immediately after Sir Mordaunt and the mate had arrived, and the three men, pulling off their caps, went up to her and held out their hands, one after another. I did not hear them speak; I believe nothing was said; it was merely a rough, pathetic seaman's grasp of the hand on their part. The memory of their long anguish, their drowned shipmates, all those horrors of famine and thirst, with Death, the skeleton, sitting among them on that water-swept deck, would well account for their parting in silence. I had my eye on the

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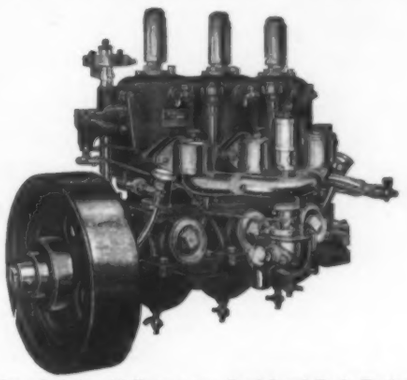

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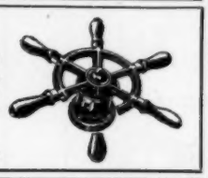

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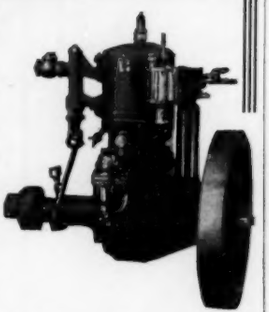

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widow's face as she shook hands with the first man. It was firm, and she looked at him steadily; but she broke down suddenly when she took the second man's hand, and dropped her face, unable to look at him; and when the third man took her hand she was crying piteously. Miss Tuke put her arm through hers, and led her away to the after end of the deck; and I was glad to see her go, for it was painful that such grief as hers should be watched by so many eyes, though God knows there was no want of sympathy for her.

The men then bade us farewell. Sir Mordaunt gave them his hand, and one of them held it as though he could not make up his mind to release it. "Good-by, mum! God bless you, mum!" said they to Lady Brookes.

"Now, my lads, jump into the boat," exclaimed the mate. "But first let me tell you that this gentleman," indicating the baronet, "has given me ten pounds for my captain to hold for you;" and then, as if he feared this would excite another demonstration of gratitude and cause more delay, he sung out: "In with you, boys! Chuck your bundles down."

The men dropped over the side, the mate, bowing to us all, followed, and as the boat shoved off, the three men stood up and cheered us. In a very little while they disappeared under the stern of the great steam-ship, and shortly after the monster began to forge ahead.

It was a brave sight to see that huge and powerful fabric—that had lain motionless upon the swell which kept the yacht's masts swaying like a band-master's *baton*—divide the water under the hidden propulsion of her screw. The trembling light under her quivered in her glossy sides, and the glass of her ports flashed and faded as her head came round to the north and east. A great body of black smoke burst suddenly out of her low, fat funnel, and the first belch of it shot up like a balloon; but the breeze was too light to incline the dark and gleaming pillar until it had reached a certain height, when it yielded to the pressure of the current up there, and leaned over into a most graceful curl, which, as it blew further and further toward the horizon, looked like a gigantic bridge arching the blue water, whose surface mirrored the league of sooty coil in a straight dark brown line, that might very well have passed in the distance for a shoal of mud.

But though she made a fine show, yet she was sadly wanting in all those points of beauty which a sailing vessel offers. The pyramid of shining canvas, the stately leaning of the tapering masts, the swelling curves of the jibs, the lovely graduation of shadow and light upon the rounded cloths, and the sharp, clear lining of the delicate rigging upon the sails, were all lacking. Strength, even in its most majestic form, was expressed by that mighty red and green hull heaping the sparkling blue water at her side, and a torrent of snow pouring away from under her elliptical stern, that was radiant with gilt configurations; but there was no gracefulness. The eye had to seek the *Lady Maud* for that. And a beautiful sight she was, I make no doubt, for the passengers aboard that great receding steamer to watch. For so soon as the boat had gone clear of us, sail had been made, and such air as there was being abeam, every stitch of square canvas, and the studding-sails to boot, were piled upon the little vessel, until she must have looked like a big white cloud upon the sea. Soon the tinkling and churning of water alongside told us that the *Lady Maud* was contributing something to the rapidly increasing interval that now separated the two vessels. In three-quarters of an hour the great ocean steam-ship was no bigger than a nutshell upon the horizon, and when we went to lunch, nothing was to be seen of her but a smudge of smoke hovering over the spot where she had vanished. (To be Continued.)

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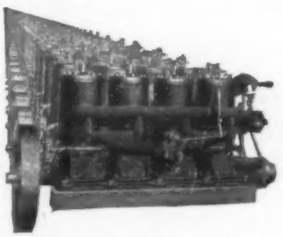

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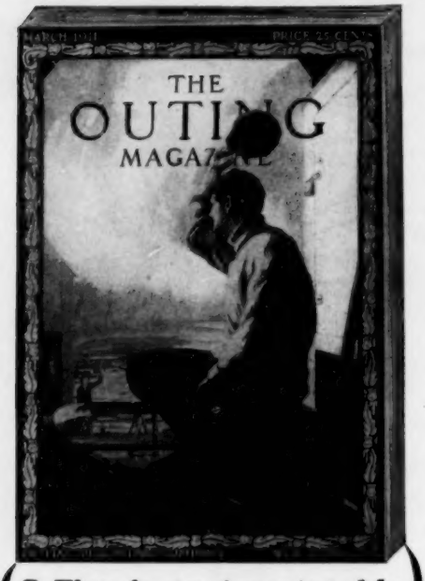

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Revised Rules for B. I. T.

(Continued from page 211.)

after the finish of the first race. If such consent be given a second race may be held on the same day.

2. Any properly constituted motor yacht club, motor boat club, yacht club, or automobile club shall be entitled to challenge for the trophy or enter a boat for its defense. All challenges and entries shall be forwarded to the recognized club of the country holding the trophy, and in the case of a challenge the challenging club shall at the same time give notice to the recognized club of its own country. If the recognized club of a country shall receive notice of more than three challenges or three entries it shall hold such races or trials as it may consider necessary in order to select a team of three boats to represent its own country in the race.

3. In the event of no challenge having been received by the recognized club of the country holding the trophy on or before March 1, no race shall take place during that year. In no case shall the races take place within five months of the receipt of the first challenge, and no further challenges shall be accepted after May 1 in any year.

4. Not later than one month after the receipt of the first challenge the recognized club of the country holding the trophy shall give notice to all recognized clubs of the date and place of the races, and not less than two months before the date of the races shall forward full particulars of the course to the recognized clubs of every country which has challenged for the trophy.

5. The races shall be over a suitable course in sheltered waters of the country holding the trophy, selected by the recognized club of that country, or failing that, in similar waters in Great Britain or Ireland.

6. The length of the course shall not be less than 25 nor more than 35 nautical miles, and shall be arranged so as to avoid any angle in the course of less than 120 degrees.

7. The measurement and starting of the competing boats and the judging of the race shall be carried out by the International Commission defined by Condition 11, hereof, which shall also be the racing committee referred to in the racing rules of the A. I. Y. A. for the purpose of considering protests.

8. The trophy shall be handed to the club of the winning boat, except that where two boats belonging to different clubs of one country have each won one race, the trophy shall be handed to the recognized club of that country, and the recognized club shall hold a further race to decide which club is entitled to the custody of the trophy. The trophy shall be held by such club for one year, or until the date of the next race, whichever shall be the shorter period.

9. The club having possession of the trophy shall undertake the safe custody of it, and shall insure it for £250, and shall pay the necessary premium. Such insurance shall cover not only loss by fire or theft, but any other loss or damage.

10. The only limitation of the size of the competing boats shall be the over-all length of the hull, which shall not exceed 40 feet.

11. There shall be no restriction on the number, size or horsepower of the engines or motors, except that each boat taking part in any race shall contain and be fitted with such mechanical power as will drive her astern at a rate of speed not less than 4 knots in still water.

12A. Each boat entered as one of a team representing any country must start in every race before the winning boat completes the course, and must finish the course within three hours of the finish of the winning boat. Any boat failing to do so in any race will be ineligible to start in any succeeding race.

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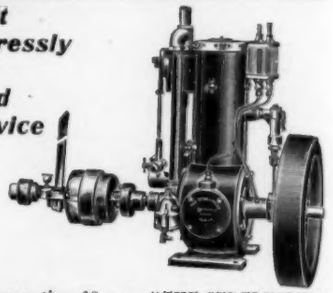

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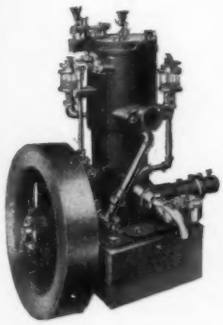

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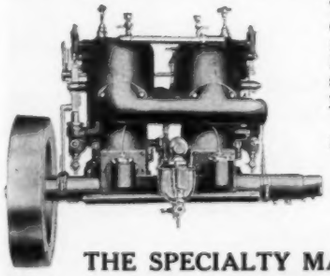

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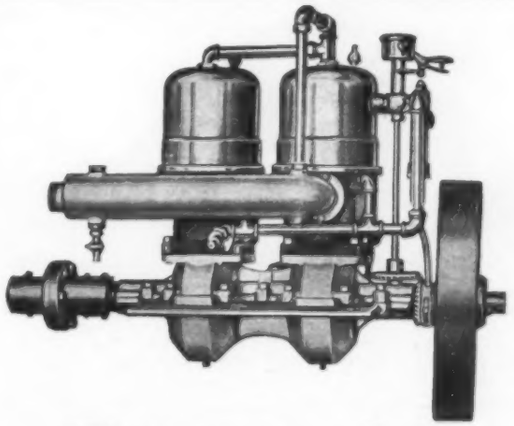

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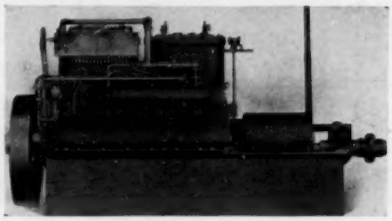

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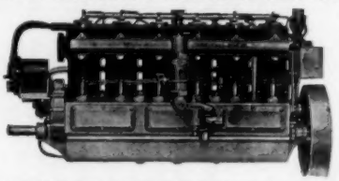

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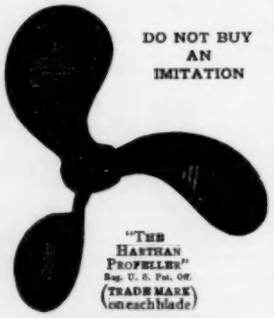

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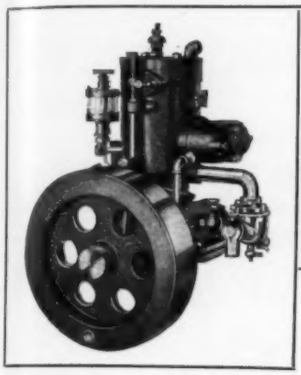

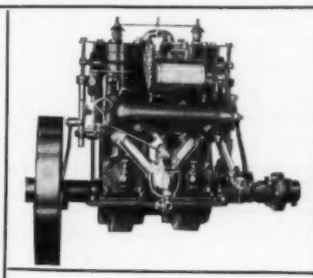

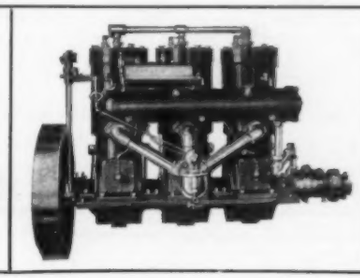

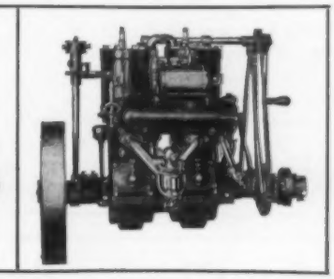

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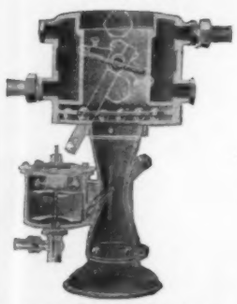

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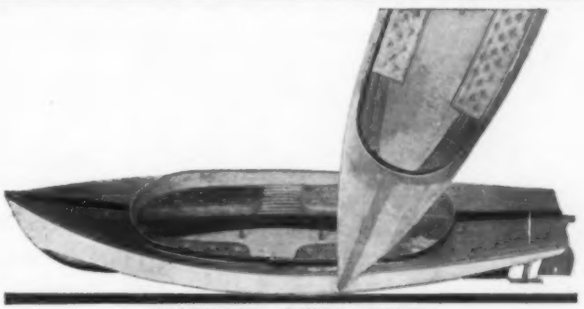

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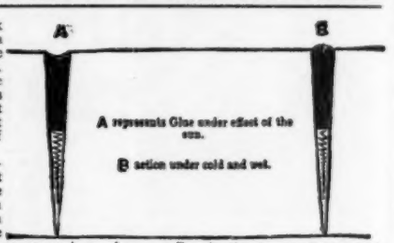

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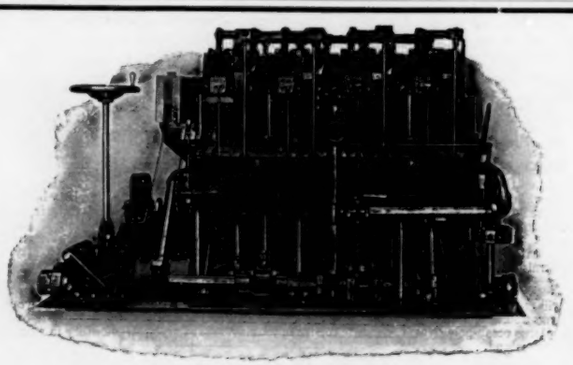

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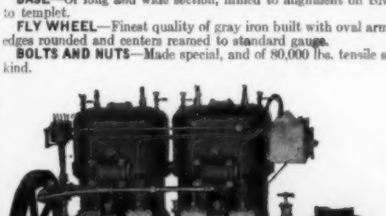

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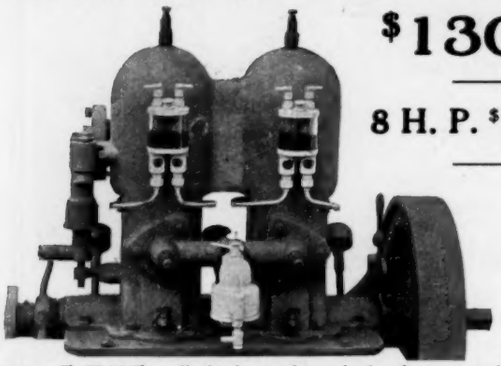

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WE HAVE a limited number of the famous twin-cylinder Pierce Marine Motors, which we are offering, together with its regular full equipment at a **most attractive price.**

Remember a Pierce 6 H. P. will actually deliver better than 8, an 8 H. P. better than 10, a 12 better than 15.

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DEAR SIRS: In answer to yours of December 10th, would say your Bailer is a little wonder. I had my boat taken out of the water this season, and in doing so we made her leak so much that she would fill up to the floor over night; in the morning, all I had to do was to start my engine, go for a 2 or 3-mile run, and my boat was DRY. You would wonder where the water had gone to.—Yours respectfully. (Signed) ARTHUR E. CUFF, Sec'y, Trenton Yacht Club.

Will cost you only a 2-cent stamp to know all about it by writing us at once.
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16 to 30 feet.

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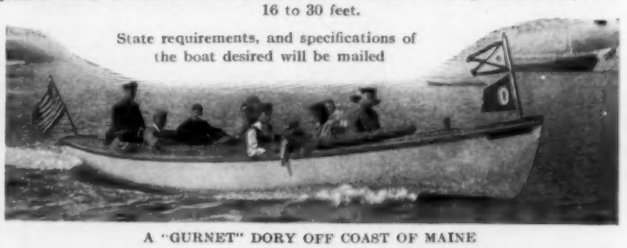

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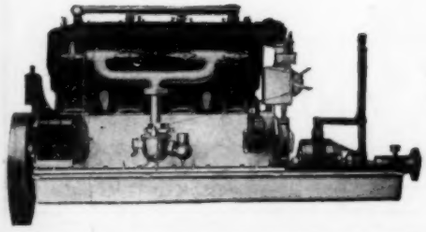
¶ Our best advice to you whether you buy a Scripps or not—is—to get a good engine. Pay enough for your engine so that it ought to be good. The man who allows himself to be persuaded by the apparent advantage of low price is saving a few dollars which a single mishap later in the season will cause him to regard as sadly misplaced economy.

¶ There are a number of good engines on the market. We believe that Scripps Motors are just about the heighth of mechanical perfection and careful, expert design. We believe we can convince you of the fact if you will investigate. ¶ We feel sure that the Scripps catalogue in your hands will demonstrate to you the justice of our claims. It describes and illustrates our new 1911 Models.



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Of Interest to the Skipper

(Continued from page 248.)

plug, and without detaching the high-tension wiring, allows the plug to be cleaned and tested at any time with the greatest ease and without danger of shock.

Illustrated descriptive matter and price list will be mailed to those stating they are readers of YACHTING, and addressing Legnard Bros., at Waukegan, Ill., who are also distributors to the trade for the well-known line of Pfanstiehl coils and magnetos.

Perfex Ignition at the Boston Show One of the interesting facts observed at the recent Boston Motor Boat Show in connection with ignition appliances was the fact that about 58 per cent of all the power boats exhibiting there were equipped with Perfex waterproof power-adding ignition system, in which the induction coil and spark plug are integral.

Two years ago the average motor boat man would have objected to placing his induction coil in combination with his spark plug and the use of but one vibrator, but the never-failing service of Perfex ignition, together with the educational advertising carried on by its manufacturers, the Electric Goods Manufacturing Company, of Canton, Mass., have brought motor boat owners up to the point where many of them insist upon Perfex ignition equipment for their engines.

For Comfort Aboard the Yacht by Night and Day The Pneumatic Manufacturing Company, 526 Seventeenth Street, Brooklyn, N. Y., are now distributing their new catalogue of everything that floats for everything that floats. Their well-known pneumatic mattresses have been adopted by several ocean liners, their last order for 200 from the Red Star Line being just completed, making about 2,500 pneumatic beds furnished for this line. For use on board the yacht this bed particularly recommends itself, being comfortable without a bedspring, non-absorbent and portable. It may be used on deck in extreme hot weather, and in case of necessity every bed is a liferaft that will hold up as many as can hold on to it. The Pneumatic Company are also manufacturers of upholstered cushions of every description for marine purposes, which not only make comfortable seats of neat appearance but are reliable life preservers. Government inspected cork life preservers, ring buoys, mooring buoys and fenders of every description, and spray hoods, suitable for every style of boat are also made by this company at moderate prices. Catalogue will be sent free on request to those of our customers mentioning YACHTING.

Novelties in Switches for Motor Boats A distinct novelty in switch construction, applicable to ignition systems for motor boats, is embodied in what is called the Compo contact, now used on all Themac switches of the Maclet line. This contact is "built up," and consists of a copper contact piece of the same area as the lever, thus assuring the highest conductivity. There is also a face place of brass, which insures long life to the spring, and all metal being polished and lacquered it gives a very handsome appearance to the switch.

Other switches made by this manufacturer, Geo. N. McKibbin, of South Norwalk, Conn., are the Maclet, Maclet No. 5 and Little Mac. Mr. McKibbin also has placed on the market a popular specialty in the Maclet Platinum Point Cleaner, which is a little device for cleaning and truing the points of spark coils without trouble or waste of platinum. These are packed in a neat box and sent postpaid on receipt of 15 cents. Another department is devoted to getting out special switches for those customers who want something different from stock articles.

Further information concerning these useful articles will be gladly furnished by Geo. N. McKibbin, 470 Elmwood Avenue, South Norwalk, Conn., to any of the readers of YACHTING who write him, mentioning this paper.

A Safe, Odorless, Effective Stove for the Galley The new galley stoves just brought out by the Alcohol Utilities Company will do more to make the cook's job aboard the cruiser comfortable the coming summer than anyone who has not seen them would have supposed possible.

In the first place, these "Pyro" stoves burn denatured alcohol, which is cheap, cleanly, absolutely safe, and which produces no disagreeable odors. In the next place, the 1911 models have an enlarged and improved burner, giving a greater amount of heat than has ever before been obtained from a vapor stove of similar dimensions, thus allowing broiling, roasting, boiling and baking to be accomplished with the greatest ease and economy.

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A fully-illustrated catalogue and price list will be sent to those of our readers mentioning YACHTING and writing to the Alcohol Utilities Company, 40 East Twenty-first Street, New York City.

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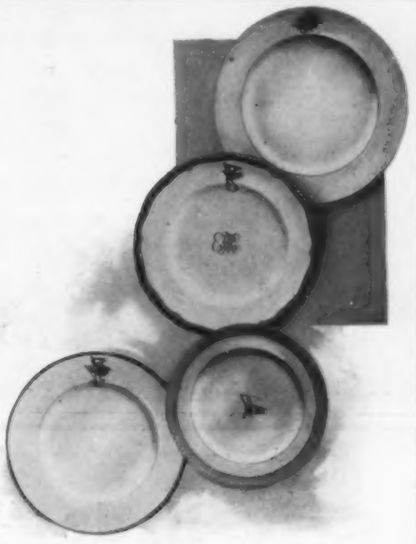

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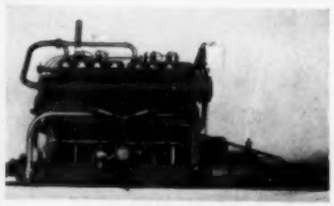

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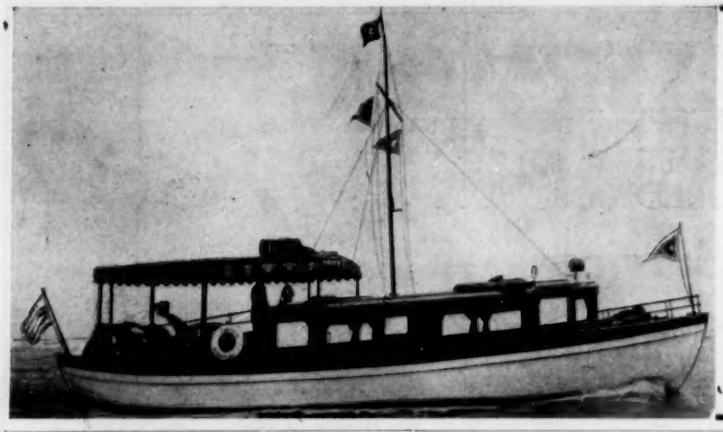

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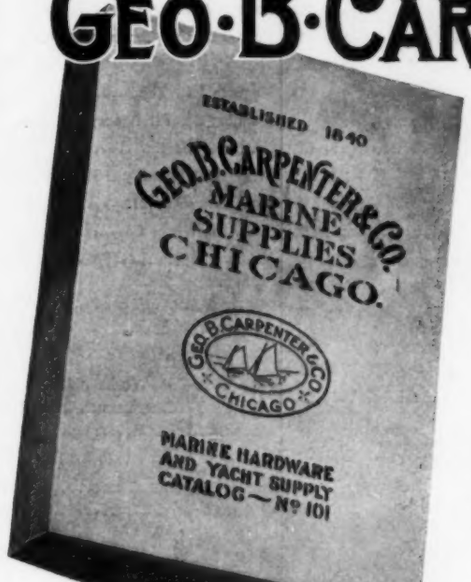

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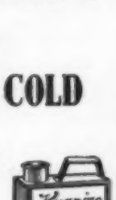

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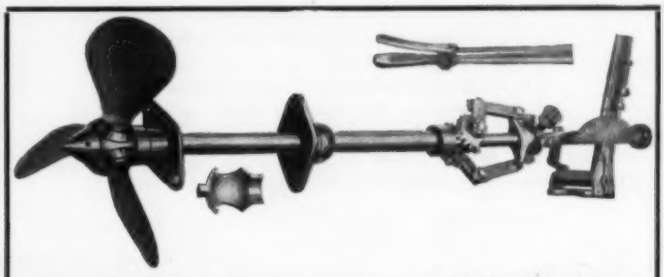

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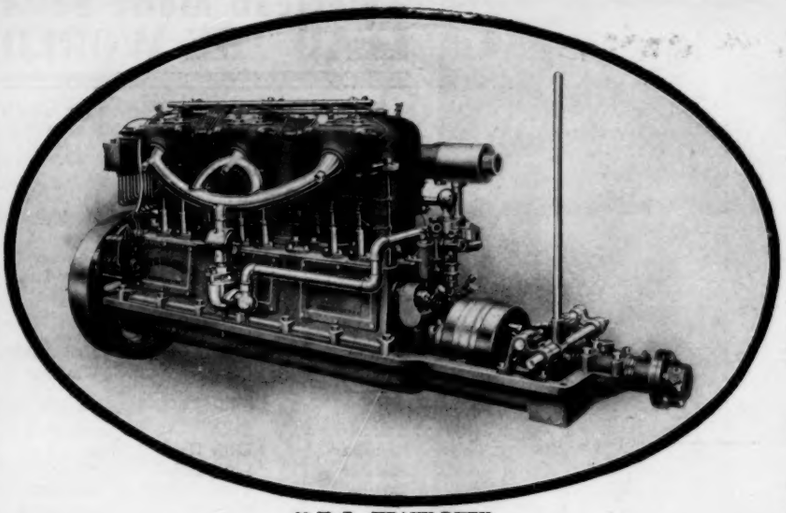

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STERLING ENGINES

4 CYCLE
8 H. P., TO 240 H. P.
2—4—6—8 CYLINDERS

MARINE ENGINES OF QUALITY
FOR ANY KIND AND SIZE BOAT
1911 CATALOG NOW READY 1911

We show here the 6-cylinder, 60 H. P. engine. The 20 H. P. is a 2-cylinder and the 40 H. P. a 4-cylinder. The bore and stroke of this group of engines is 6½" x 8". Rated power is developed in the 20 H. P. at a speed of 425 R. P. M., and in the 40 H. P. and 60 H. P. at a speed of 400 R. P. M. The 20 H. P. is furnished with either Perfex or Orswell water-proof system of ignition if preferred to regular jump spark ignition. The 40 H. P. and 60 H. P. are regularly equipped with Bosch magnetic make-and-break system of ignition in addition to regular jump spark system, also fitted with bilge and air pump.

Other sizes for semi-heavy duty and speed work are 8, 10, 12, 15, 18 25, 25-40, 30-45, 35-55, 45-65, 100, 180, 240 H. P.

Our new 1911 general catalog is now being mailed to those wanting it, and one will be sent free to you upon receipt of your request. This catalog goes into complete details of the design and construction of Sterling Engines.

BOSTON—A. P. HOMER, 88 BROAD ST.
NEW YORK—BRUNS KIMBALL CO., 134 LIBERTY ST
PHILADELPHIA—EDWIN KAIN CO., BOURSE BLDG.
CHICAGO—CHICAGO BOAT AND ENGINE CO., 1508 MICHIGAN AVE.

STERLING ENGINE COMPANY, 1258 NIAGARA STREET, BUFFALO, N. Y.

"Speed combined with lightness; endurance, grace and simplicity of operation."

"An engine that sold itself before even the blue prints were finished."

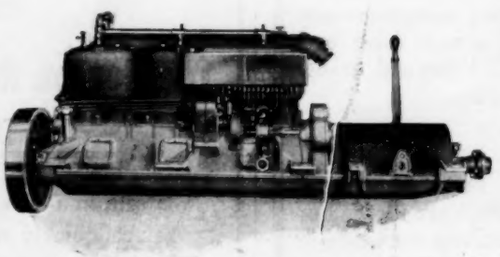
This Is Our New "Six"

You remember we told you we were bringing out another engine.

Well, here it is.

It is our new six-cylinder of the Auto-Marine type—40 horsepower, 4¾ inch bore, 5 inch stroke and an easy speed of 800 R.P.M.

The "Six" is **a high speed engine for lights boats.** It embodies the same quality that goes into other "BUFFALOS" the same skilful workmanship, the same careful testing of every part. Its good points appealed so strongly to motor boat enthusiasts that **orders were placed before the designs were finished.**



"The Engine of Constant Service"

Twenty-Two Other Models

"BUFFALO" engines are built in 23 Models of the REGULAR, HIGH SPEED and HEAVY DUTY types.

They have one, two, four, six and eight cylinders.

Two to 225 Horsepower.

Thus we are able to supply **"An Engine for any Sort or Size of Boat."**

The "BUFFALO" reputation for high quality came from years of untiring attention to details and strict adherence to the rule that **every "BUFFALO" engine must give complete satisfaction.** We could not afford to have it otherwise.

BUFFALO GASOLENE MOTOR CO.

Send for the "BUFFALO" Book.

1260-72 Niagara Street BUFFALO, N. Y.

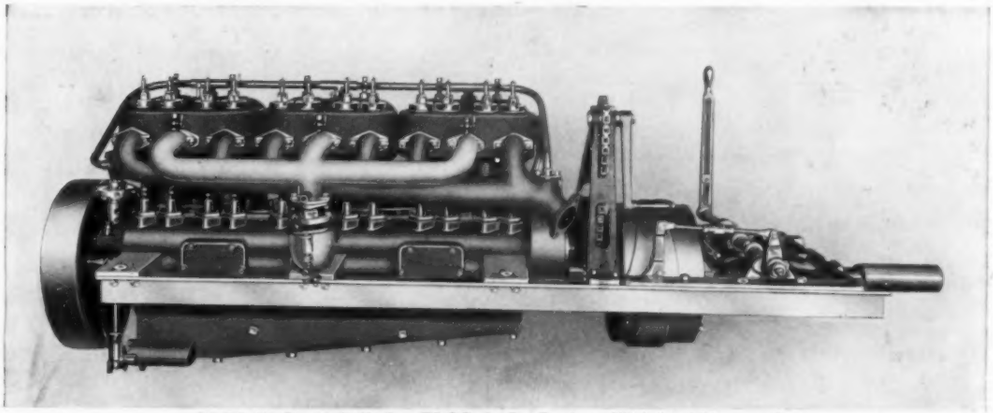
Elco A.B. ENGINES

HOLD THE CHAMPIONSHIP

For three years consecutively they have won both the ***Long Distance Race:*** New York to Poughkeepsie and return, 132 miles, at the remarkable average speed of 24 miles an hour; and also the race for the ***Interstate Trophy.***

Reliability Workmanship Design

They Weigh Only 10 Pounds to the Horse Power



60-70 H. P., 6 Cylinder ELCO-A. B. Engine, Weight 650 pounds

Elco-A. B. Gasoline Engines are built in a celebrated Gun Factory where only the best material is employed by most experienced mechanics; each part subjected to a rigid inspection during every stage of construction.

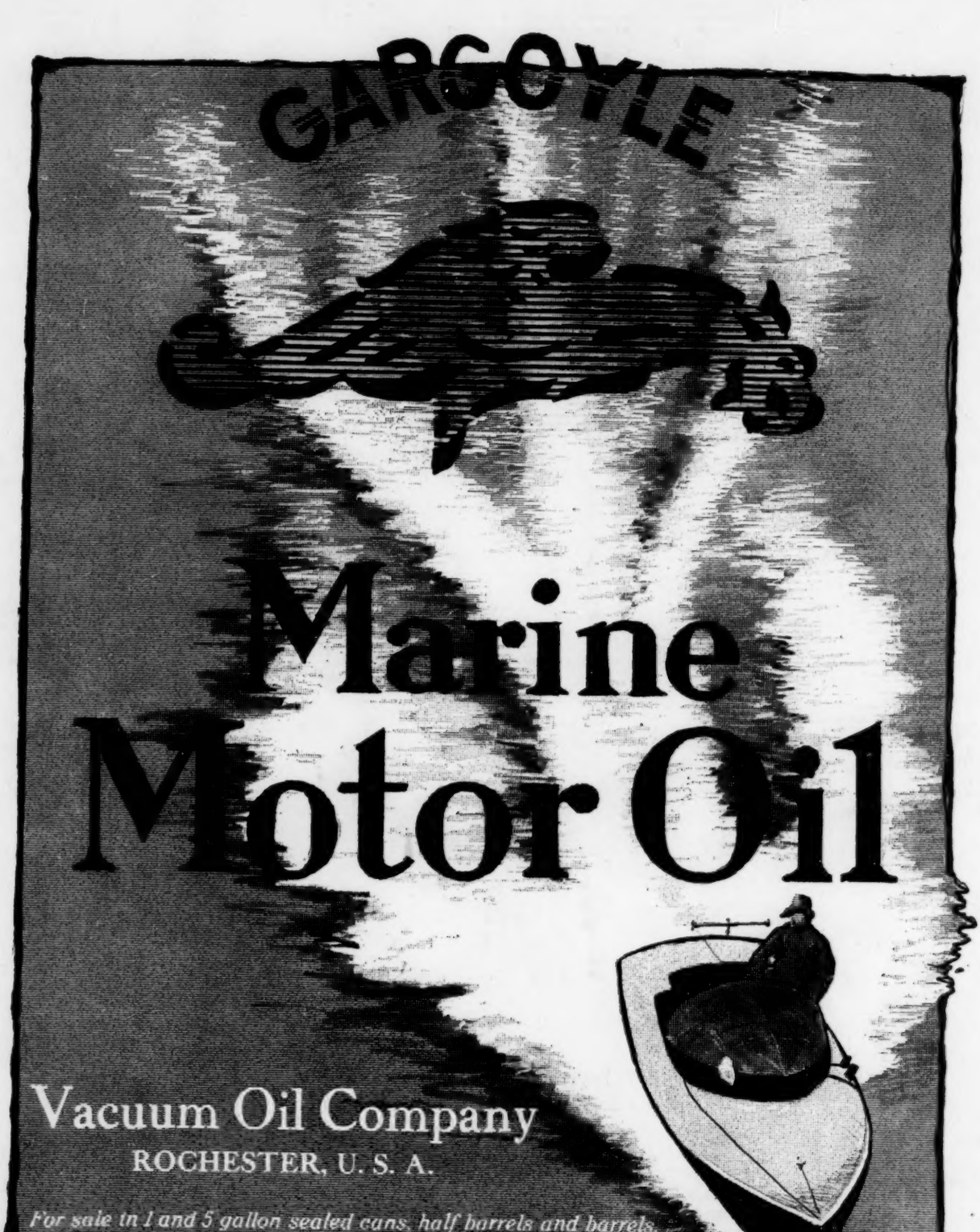
Two Sizes: 40-50 H. P. 4 cylinder and 60-70 H. P. 6 cylinder

The cylinders are 5 inch bore by 4¾ inch stroke, the engines developing their rated horse power at 1000 R. P. M., or one horse power for each 10 pounds of engine weight, which cannot be equalled, for continued service, by any other engine offered in the market.

We are exhibiting these engines at the Motor Boat Show, Madison Square Garden, February 21st to March 4th.

Chicago Salesrooms
1205 Michigan Ave.

Address Elco **193 Avenue A,** 27 minutes from Liberty and 23d St. ferries C. R. R. of N. J. **Bayonne, N. J.**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Motor Oil
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ROCHESTER, U. S. A.
For sale in 1 and 5 gallon sealed cans, half barrels and barrels.